

# SD Times

The Industry Newspaper for Software Development Managers

● SOFTWARE DEVELOPMENT

## SPECIAL REPORT

Defect-Tracking  
Tools: Price Vs.  
Performance



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FEBRUARY 15, 2004

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## Novell Stakes Its Claim at LinuxWorld

Declares itself Linux leader, CEO vows not to 'mess up' on open source

BY EDWARD J. CORREIA

NEW YORK — Novell Inc. and adopted prodigy SUSE Linux struck a one-two punch at the LinuxWorld Conference and Expo here in late January with declarations by top executives that Novell will be a major player in the Linux world and is committed to responsibly shepherding the operating system and Novell's

other open-source projects.

"I want to dispel any lingering concerns," said Novell CEO Jack Messman in his opening-day keynote. "With SUSE Linux and Ximian, we have gained two of the jewels of the open-source community. We will contribute more to open source than we will take away. We will not mess this up."

In a press conference imme-



Novell executives Richard Seibt, Chris Stone and Jack Messman took center stage at the recent LinuxWorld Conference.

dately following the keynote, Richard Seibt, former CEO of SUSE Linux, revealed a strategy shift with regard to UnitedLinux. "We will not enter into any new agreement with UnitedLinux if [The SCO Group] remains a member. There's not value in this relationship anymore." SUSE was one of four vendors in the consortium, and its Linux distribution formed

the basis for the UnitedLinux edition.

Seibt said that if Novell did back out of UnitedLinux, it would continue to work with remaining members Conectiva and TurboLinux, which it considers valuable partners in South America and Asia. His comments, however, were immediately tempered by

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## SCO 'ON THE DEFENSIVE'

### Lobbies Congress, sues Novell

BY YVONNE L. LEE

The SCO Group stepped up its crusade against Linux in January, filing a lawsuit against Novell Inc. and lobbying the U.S. Congress against what it says are the dangers of the GNU General Public License (GPL).

The Lindon, Utah, company filed its suit against Novell,

which earlier in the month bought SUSE Linux, on Jan. 20, the day before Novell chairman and CEO Jack Messman gave the keynote speech at the LinuxWorld Conference in New York.

SCO spokesman Blake Stowell said the timing was coincidental. "It played no role in the

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## Broad Vision for Revamped Eclipse

Membership levels, management spelled out under reorganization

BY JENNIFER DEJONG

The Eclipse board of stewards announced Eclipse's reorganization into a not-for-profit corporation, defining five membership levels and spelling out financial and management terms, earlier this month at the EclipseCon conference in Anaheim, Calif.

The move formally estab-

lishes the open-source consortium as an entity independent from IBM Corp. and puts IBM on par with other members of the foundation. "The amount of control and influence IBM has is being significantly reduced," said Eclipse spokesman Skip McGaughey.

According to McGaughey, the new organization had 56

members as of press time. It has established a board of directors and defined five classes of membership: strategic developers, strategic consumers, add-in providers, open-source project leaders and associates.

McGaughey said that in the coming weeks, the board will announce its selection of an executive director, who will lead the Eclipse management organization and hire a staff. The board currently is considering four candidates; the names were not made public. In accordance with bylaws of the Eclipse Foundation, none

THIRD PARTIES  
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of the candidates is an employee of IBM or any other member company, said McGaughey.

As strategic developers, IBM, Intel and QNX hold seats on the board of directors and take on a major leadership role in the development of the technology, said McGaughey. Each will contribute at least eight full-time developers, and a percentage of annual revenue, up to US\$250,000 a year.

While IBM's actual dollar contribution is on par with that of Intel and QNX, Lee Nackman, chief technology officer at

## APACHE REWRITES LICENSE

Eases reuse, adds  
IP protections

BY DAVID RUBINSTEIN

The Apache Software Foundation has rewritten the Apache license to make it easier for users to reuse the license without having to change it for a specific project, to make it more compatible with the GNU General Public License, and to add broader protections against property infringement claims. The use of the new license is

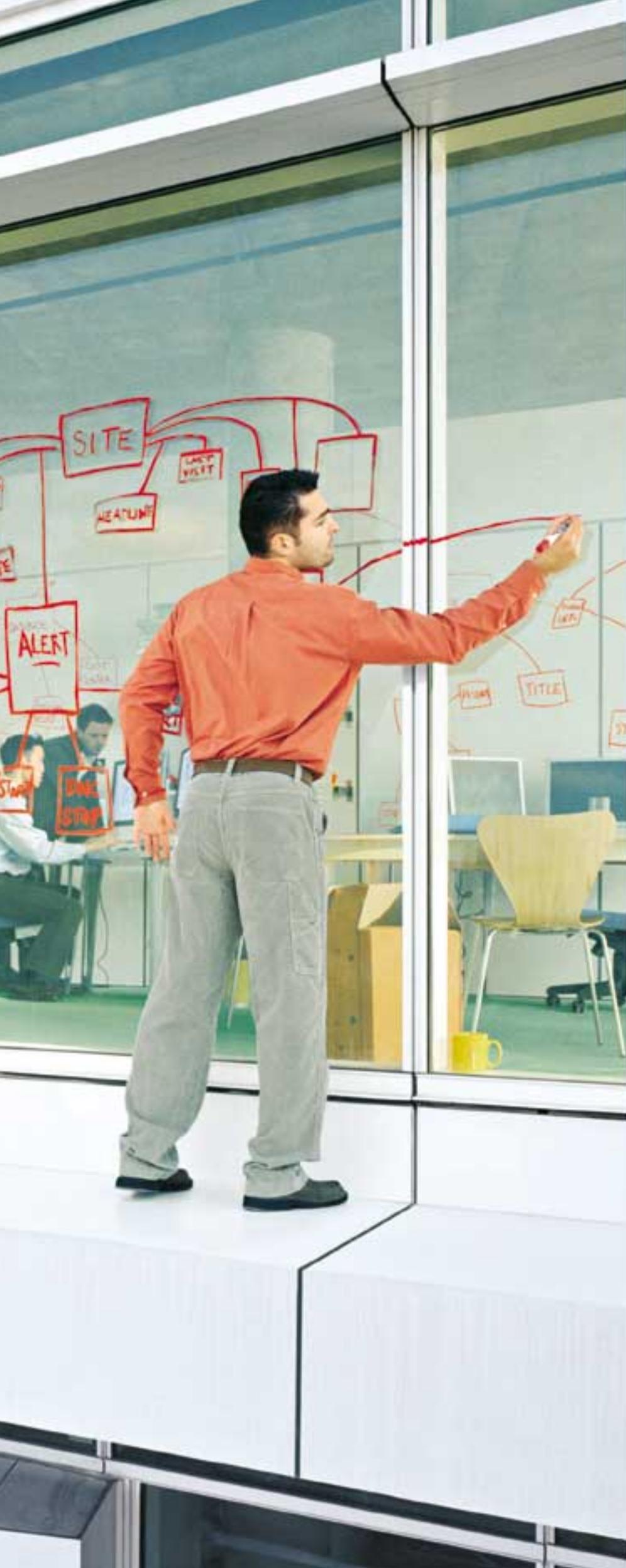
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# Third Parties Celebrate Eclipse Independence

Claim greater input will help solve issues such as plug-in compatibility, profits

BY JENNIFER DEJONG

As the newly named Eclipse Foundation establishes itself as an entity separate from IBM Corp., vendors of commercial products based on the open-source framework are applauding the move, saying that it will promote Eclipse adoption and give them more say as to how it evolves.

"As a small vendor, you can cast your vote, and your voice is as powerful as [that of] a large vendor," said Dave Martin, vice president of product management at MKS Inc., which sells an Eclipse version of its software configuration tool, MKS Integrity.

"Even though IBM was listening to the needs of others within the Eclipse ecosystem, of course it had the most influence," added Jochen Krause, founder and president of Innoopract, the Karlsruhe, Germany-based company that sells the Eclipse plug-in W4T, a tool for developing Web interfaces for Java server applications.

One issue in which vendors of Eclipse-based commercial products have a vested interest is how best to deal with the potential for conflict among plug-ins from different vendors.

"I have no way to validate that my [Eclipse] plug-in will work with all the other plug-ins," said Fima Katz, president and founder of Exadel Inc., which sells the Eclipse plug-in Struts Studio, a building tool for the Jakarta Struts Framework.

It's easy to validate that your

plug-in works with the Eclipse framework itself, he noted. "But as a small vendor, how many people will come to me to validate [that their plug-in works with mine]?"

With Eclipse still in its infancy, the problem is manageable, and the onus is on individual vendors to resolve possible conflicts, said Sandy Smith, vice president of product management and marketing at SlickEdit Inc., which sells SlickEdit Plug-In, a code editor for WebSphere Studio and Eclipse, and SlickEdit Studio, an IDE based on Eclipse.

The Eclipse Foundation estimates that there are more than 175 commercial software products based on Eclipse available today. But that does not mean that each plug-in must be tested against every plug-in out there, noted Smith. "You need to test your plug-in against other plug-ins your product will touch," she said.

While conflicts can certainly occur, Eclipse plug-in vendors are not anticipating chaos. The architecture of Eclipse fundamentally supports plug-ins, noted John Wiegand, Eclipse platform lead and a senior member of the technical staff at IBM. "One of the key Eclipse features is that customers can go to one vendor to get a solution to solve one customer task and another vendor to solve another task," he said.

The fundamental architecture of the framework really gives you the isolation needed

to avoid conflict," echoed Gary Brunel, vice president of professional services at Parasoft Corp., which sells an Eclipse version of its Jtest testing tool.

David Zygmont, CEO of Metanology Corp., which sells the Eclipse plug-in modeling tool Model-Driven Development Environment, said it is important to keep the problem of potential conflict among plug-ins in perspective. "It's no different than trying to support different versions of Windows," he said, referring to the problem of compatibility among DLLs.

"Validation is an important issue we have to tackle," added Innoopract's Krause. "Even the possibility of problems is critical for some potential customers," he said.

SlickEdit's Smith noted that there are successful validation models out there, such as the "Ready for WebSphere" model IBM sponsors for vendors that make WebSphere plug-ins. She said she has the "highest confidence" that the Eclipse Foundation will figure out how to address this issue, noting that IBM's WebSphere model is not the appropriate validation model for Eclipse plug-ins.

Wiegand said that development managers will likely create corporate profiles of plug-ins that they encourage their teams to use. "In fact, some organizations are already creating certification programs so customers know which plug-ins work well," he said, and well together.

Of greater concern to Smith

is a larger question: "How do you market a commercial product within the open-source community, where the expectation is that some products will be free? We charge for our software; we have a business to keep going," said Smith, who serves on the Eclipse marketing committee.

She noted that the committee needs to determine how

best to reach prospective customers, even though vendors of Eclipse products currently have no knowledge of who has downloaded the framework. She is confident the foundation will successfully address this as well as the validation issue. "With IBM participating in Eclipse on equal footing, the community will decide. These issues will get solved." ■

## IBM OFFERS A LOOK INTO NEW 'STINGER' FEATURES

Preview of next DB2 version includes Eclipse plug-ins, modeling support

BY JENNIFER DEJONG

Making good on its promise to preview forthcoming features of DB2, IBM Corp. was expected to demonstrate at the EclipseCon conference earlier this month new capabilities of "Stinger," the code name for the next generation of its relational database.

The new set of capabilities will make it easier for Eclipse and Java developers to build applications that work with DB2, said Les King, IBM's senior manager for DB2 development. They include Eclipse plug-ins that provide visual tools and wizards to create database tables, indexes, views and other objects; a new DB2 Type4 JDBC driver that complies with the J2EE 1.4 and JDBC 3.0 standards; a DB2 help system that is integrated with the Eclipse help system; and Eclipse support for IBM's Rational data modeling tool XDE Developer for Java.

"The visual tools and wizards enable Java developers to easily manage DB2 schemas without having to know the nitty-gritty of DB2," said King. In the past, developers had to work directly in DB2, but now they work with DB2 from the Eclipse interface. "This takes away that intermediate layer," he said. "[Developers] no longer have to concern themselves with the nuances of DB2."

King noted that the new Type4 JDBC driver is impor-

tant because it enables developers to work in a pure Java environment, without C or any other code, on any Java platform. "Up until this point, we provided only a subset of that function for the Type4 driver," he said.

Eclipse support for IBM Rational XDE Developer for Java enables developers to model applications within the open-source framework. Many developers don't take the time to create data models of applications. But King emphasized that it is particularly useful to do so when you are dealing with large volumes of business data. "Trying to shift [that data] around later is much more painful than it is at the beginning," he said.

The new features that IBM is expected to preview at EclipseCon eventually will be incorporated in the forthcoming version of DB2. While IBM is not announcing the general availability of this set of capabilities, the DB2 Application Development Technology Preview is available to developers who request it at [www6.software.ibm.com/reg/dm/dm-adtpapp-I](http://www6.software.ibm.com/reg/dm/dm-adtpapp-I), said King.

A release date for Stinger has not been announced, but King said IBM will preview more new features before the end of the second quarter.

As was announced late last year, Stinger also will offer support for Microsoft .NET developers. ■



### THIS YEAR'S MODEL

A simplified Complete/Compare interface (in foreground) for synchronizing data and models is among the new features Computer Associates International Inc. has built into its ERwin Data Modeler, one of seven AllFusion Modeling Suite products updated to version 4.1.4 and released earlier this month.

CA's old ModelMart database conversion tool has been renamed AllFusion Model Manager. The interface (in background) includes a security feature and allows users to choose Windows authentication for connecting to the data mart.

Changes to the user interface, including floating toolbars and scrollability, have been made across the product line, as have new diagnostic reporting features, according to CA's vice president of product marketing, Shari Shore. —David Rubinstein



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# MySQL Shows First GUI Tool; Database Stores Procedures

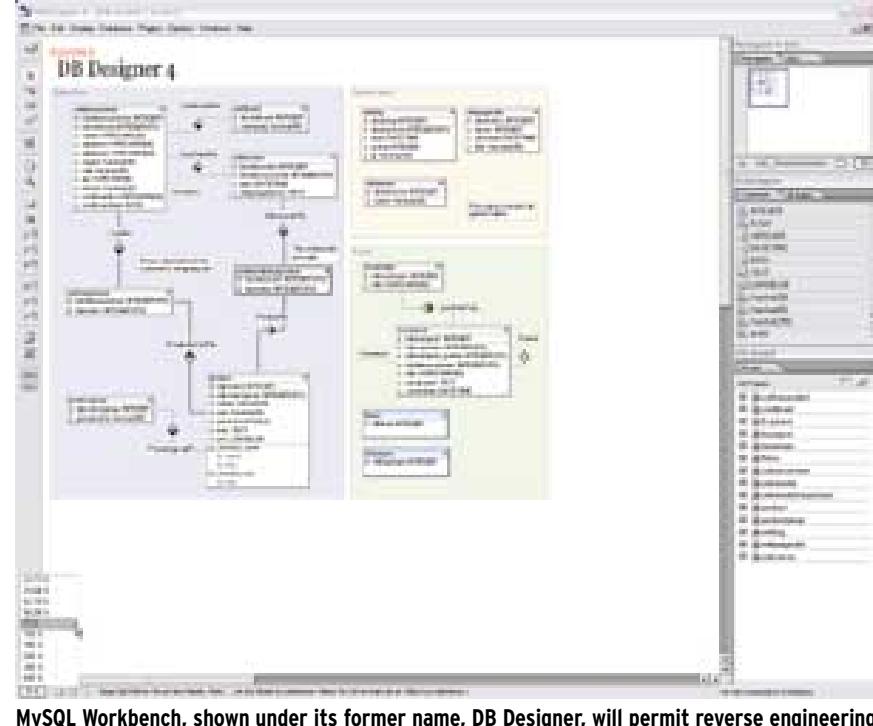
BY EDWARD J. CORREIA

NEW YORK — At the LinuxWorld Conference and Expo here in late January, Swedish database developer MySQL AB demonstrated an early version of MySQL Workbench, the company's first GUI-based tool for designing and maintaining MySQL database structures and schema.

The news comes days after the mid-January alpha release of MySQL 5.0, an update to its open-source relational database management system that the company claims is more scalable through support of stored procedures and more ANSI commands.

"By supporting a broader set of standard database features, we have extended the range of enterprise applications that can benefit from the cost reductions that MySQL offers," said CEO Marten Mickos. Pricing for a commercial license of MySQL starts at around US\$495 per server.

MySQL's stored procedures are based on SQL 2003, the code name for the International Standards Organization's ISO/IEC 9075 specification, scheduled for release this month. According to Brian Aker, MySQL's director of architecture, having the ability to store procedures helps ensure that an application's database functions will



MySQL Workbench, shown under its former name, DB Designer, will permit reverse engineering.

operate as intended. "All logic is kept with the data; there is no question about having your application server not honoring constraints," Aker claimed. The feature also helps improve developer productivity. "Stored procedures allow you to simplify your application layer, mak-

ing it easier for developers to picture the database as a storage engine."

Developers can download the latest alpha build, licensed under a GNU GPL, at [www.mysql.com/downloads](http://www.mysql.com/downloads); general availability and final pricing were not determined at press time.

Originally called DB Designer, MySQL Workbench was developed as a college project by Michael Zinner, who is now among the newest MySQL employees. "MySQL came to Germany to see the product and hired me on the spot," Zinner said as he demonstrated the tool's reverse-engineering capability, which simplifies migration. "You just open the other database and synchronize. It automatically recreates the database schema, and all the tables, columns and data types inside MySQL." Reverse engineering of Microsoft SQL Server, Oracle, ODBC and Postgres databases will be supported at launch, he added.

Zinner asserted that database developers will want to have this tool open all the time to manage and maintain databases and to perform queries against their data. "There's no longer a need to execute SQL statements manually. Just make your changes and synchronize; statements are executed and changes are made." For die-hard developers, Zinner demonstrated a code-editing window that automatically reformats commands for ASP, Kylix/Delphi, PHP and other code editors.

Set for release in May, MySQL Workbench will be available under a GNU GPL; commercial pricing was not determined at press time. ■

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# Sterling Integration Broker 3.0 Supports SOA, UCC

BY EDWARD J. CORREIA

Add one to the list of integration software vendors claiming to offer a service-oriented architecture. SBC Communications Inc. software subsidiary Sterling Commerce in mid-Jan-

uary released Integration Broker 3.0, the latest component of its Gentran Integration Suite that adds two more acronyms to its B-to-B solution for EAI and EDI. In addition to SOA, the company claims UCC certifica-

tion for improved data exchange between trading partners.

The Uniform Code Council Inc. (UCC) is a multi-industry consortium that develops standards of product identification for effective management and

control of supply-chain integration.

"You name the buzzword and we deliver on it," said Sterling CEO Sam Starr, singing the praises of the suite's service-oriented archi-

ecture, which he said permits companies to integrate in stages. "We were able to incorporate some older legacy products as services or connection points to integrate with, so it gives customers a modular path to the future."

Starr claimed that Integration Broker simplifies the process of creating wrappers for XML, intelligent routing, exception handling and "anything else you can do with a business process markup language" around existing integrations and systems.

Also significant is compliance with UCC, which maintains a registry that companies can use to catalog their items and related information for access by partners. "The biggest problem between trading partners is out-of-sync data. Big retailers such as Wal-Mart and others are demanding tighter collaboration." Starr said the new software includes prebuilt data flows for linking an organization's data sources with the registry and with trading partners.

Starr claimed that Integration Broker 3.0 now can process a greater document workload, thanks to a re-engineering of its container system, including more efficient decisions about what to put in the container and what to leave out. "No I/O is good I/O. If I don't have to persist or lay down a business process, and it can be kept in memory, I can improve my performance. We're seeing 10 million documents a day."

Reducing the number of inheritances also has helped to improve performance, Starr claimed. "If you do a lot of inheritance calls in object code, it can elongate the number of processes and handling you have to do with a given payload. You can gain a lot of performance by altering that."

Previously available only for Unix and Windows servers, Integration Broker 3.0 now also runs on IBM's OS/390 and AS/400 mainframes. The starting price for an average deployment is around US\$100,000, Starr said, adding that individual point-to-point integration components can cost as little \$2,000. ■



**The new version lets companies integrate in stages, says Sterling's Starr.**



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## Preventing Errors Through Defect Tracking

Have you ever considered using a defect tracking system as an error prevention tool? Here is what you can do to prevent the same errors from re-occurring in your software lifecycle:

With every release of a new product, use a defect tracking system to record all of the errors that were reported. Then analyze these errors and construct a list that groups the defects into similar categories. By grouping them, you will be able to find any correlations between the errors.

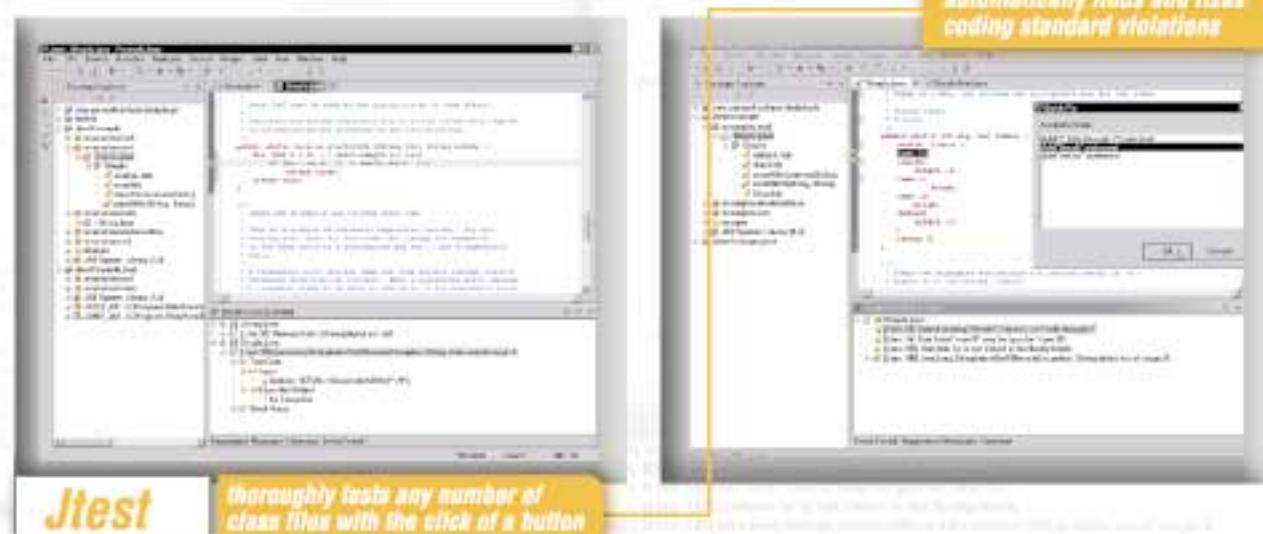
When you find a correlation, verify whether or not the root cause of the errors originated from the same place. The errors you find may or may not have the same root cause. Regardless, you should be able to locate the points in your software lifecycle at which these errors occurred, and you should also be able to determine the exact cause of these similar errors.

After locating and determining the cause of your errors, you will be able to implement preventative practices that will keep you from making the same mistakes over and over again. Give this procedure a try and see if it works for you. You should see a significant reduction of errors in the next release of your product.

By the way, the procedure described above is a fundamental part of Parasoft's Automated Error Prevention (AEP) methodology. You can find more information about Automated Error Prevention at [www.parasoft.com](http://www.parasoft.com).

— Adam Kolawa, Ph.D.  
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# MainWin for J2EE Brings .NET Developers to Other Side

## Software automates creation of Java bytecode from Microsoft Intermediate Language

BY YVONNE L. LEE

Mainsoft Corp. this week will begin shipping plug-in software that makes it possible for devel-

opers using Microsoft's Visual Studio .NET environment to work on J2EE projects.

"We are extending our

cross-platform products to not only support C++ but C# and Visual Basic .NET," said Yaakov Cohen, president and

CEO of the San Jose company. MainWin for J2EE makes it possible for C# and Visual Basic .NET programmers to

create J2EE products just as MainWin for Unix made it possible for C++ users to create applications that ran on Unix, he said.

Developers work within Visual Studio .NET and create Visual Basic or C# source code, which is then compiled into Microsoft Intermediate Language—the transient stage between source code and machine code. The Mainsoft software then translates the intermediate code into Java bytecode. That is then executed as a JAR file that can run in any operating system with a Java Virtual Machine.

### SPEAKING MY LANGUAGE

"We want to turn the Java platform from the mono-language platform to a rich-language platform," said Cohen. Conversely, he said, the software makes Microsoft languages available on multiple platforms.

MainWin for J2EE can be used to build C# and Visual Basic interfaces and business logic that connect to session and entity beans on a J2EE application server back end, he said. MainWin also can import Java class libraries from the app server and can work with Enterprise JavaBeans, Cohen added.

"We do that in a way that the EJB looks to the Visual Studio developer as a regular .NET object," he said. "He does not have to deal with the complexity of EJBs. This way, there is no retraining required and no integration cost."

With MainWin for J2EE, the company claims, Visual Studio developers create code that complies with all the most recent Java standards, and as such can be deployed on any J2EE server.

Cohen made the point that MainWin for J2EE also can help organizations that want to move from the Microsoft platform into a more heterogeneous environment that includes J2EE servers, where developers might not have expertise in either the Java programming language or in the J2EE architecture.

MainWin for J2EE is available immediately for US\$5,000 per developer. ■



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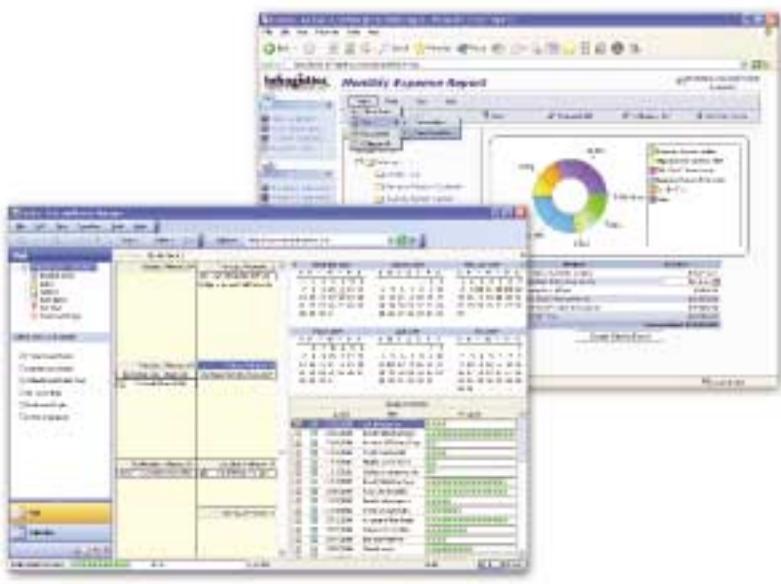
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In the beginning  
there was COM...

Microsoft introduces the .NET Framework and simultaneously Infragistics announces their .NET roadmap and ship date for NetAdvantage!

Infragistics releases the ASP.NET "Expense" reference application and the Windows Forms "Tracker" reference application and eBook.

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2004 Vol. 1  
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Infragistics is invited by Microsoft to demonstrate new Avalon developer tools at PDC.

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WinExplorerBar - Outlook 2003 Navigation Pane  
WinSchedule - Office 2003 Look & Feel  
WinChart - NEW StepLine chart type  
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### ASP.NET

ASP.NET Presentation Layer Framework NEW Features and Enhancements  
WebDataInput - 5 NEW elements including WebMaskEdit  
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## News Briefs

### MORE PRODUCTS

◀ continued from page 6

layouts for mixed-platform environments and new options for integrating files and viewing annotated file content . . . Express Logic Inc.'s real-time operating system, **ThreadX**, now supports LSI Logic's ZSP processors. Pricing starts at US\$12,500 for a single design license with no runtime royalties . . . Version 3.1 of **PrimalScript**, a Windows scripting language from Sapien Technologies Inc., now supports Macromedia's Flash ActionScript 2.0, and has pop-up help for its programming environment. Pricing starts at US\$179 . . . Compuware Corp. is offering version 3.0 of its **File-AID/CS** test-data management system. The update has a new related-extract and load feature that can subset related data from one database and load the data into another. A new data-compare facility lets users validate results across heterogeneous data environments. The system also supports stored procedures, triggers and XML. Separately, Compuware updated its **DriverStudio** device-driver toolkit; version 3.1 works with Visual Studio .NET 2003, and has a new wizard that creates Windows drivers in C . . . Riverbank Computing Ltd. has released **PyQt**, a set of Python bindings for Trolltech's Qt graphical framework. PyQt is implemented as extension modules with 300 classes and 5,750 functions, and is designed to allow Python to be used as an alternative to C++ for programming Qt . . . Version 2.4 of Panscopic Corp.'s J2EE self-service reporting software, called **Panscopic**, adds new charting options and now runs on Red Hat Linux, and supports IBM's WebSphere and DB2. The latest version also has a new API for integrating the report generator with J2EE applications . . . Excelsior LLC has updated **Jet**, its J2SE virtual machine for Windows. Version 3.5 supports Sun's J2SE specification, has a new application launcher similar to Sun's JRE tool, and allows XML and CORBA APIs to be released with newer versions using an endorsed standards override mechanism. Pricing starts at US\$200 . . . The open-source **Keel** project released version 2.0 of the Java server-side metaframework for providing standard interfaces for other open-source frameworks and components. Version 2.0 has greater ease of use, enhanced stability, full distributed processing with clustering and failover, unit and functional tests, data persistence and an expanded array of services and implementations; it also can work with the JBoss application server . . . Lead Technologies Inc. has updated its **LeadTools** collection of SDKs for image processing. Version 14 has updates to its optical character and mark recognition engines, new document file formats, and additional image registration and processing functions. It also has new filters for multimedia processing and audio and video filtering . . . SoftIntegration Inc. has updated its **C++ Graphical Library** for 2D and 3D charting and plotting. Version 1.1 includes new features for royalty-free distribution of applications that use the library. Pricing starts at US\$299, depending on licensing terms.



application launcher similar to Sun's JRE tool, and allows XML and CORBA APIs to be released with newer versions using an endorsed standards override mechanism. Pricing starts at US\$200 . . . The open-source **Keel** project released version 2.0 of the Java server-side metaframework for providing standard interfaces for other open-source frameworks and components. Version 2.0 has greater ease of use, enhanced stability, full distributed processing with clustering and failover, unit and functional tests, data persistence and an expanded array of services and implementations; it also can work with the JBoss application server . . . Lead Technologies Inc. has updated its **LeadTools** collection of SDKs for image processing. Version 14 has updates to its optical character and mark recognition engines, new document file formats, and additional image registration and processing functions. It also has new filters for multimedia processing and audio and video filtering . . . SoftIntegration Inc. has updated its **C++ Graphical Library** for 2D and 3D charting and plotting. Version 1.1 includes new features for royalty-free distribution of applications that use the library. Pricing starts at US\$299, depending on licensing terms.

### PEOPLE

**Jeffrey Waxman** is the new president and CEO of Cloakware Corp., an application security vendor, replacing **Fariborz Fallah**. Previously, Waxman was CEO of SilentRunner Inc., a Raytheon subsidiary. The Canadian company also is opening a U.S. headquarters in Washington, D.C. . . . Grand Central Communications Inc. has hired **David Linthicum** as EVP of application strategy and solutions. Linthicum had been CTO of Mercator Software Inc. . . . **Jeff Farbacher** has joined TimeSys Corp. as VP of engineering. Previously, he served as director of software engineering for Texas Instruments Inc. . . . The SCO Group has named **Wolf Bauer** as VP of engineering, and **Scott Lemon** as chief technologist. Bauer had been at AT&T's Unix Systems Laboratory, and from there to Novell and SCO, since the early 1990s. Lemon had been chief strategy officer at Vultus Inc., which SCO acquired in mid-2003 . . . PDF tools vendor Appligent Inc. has hired **Bruce Salkovitz** to serve as product manager for its server-based products. Salkovitz was previously manager of software solutions at Lquent Inc. . . . **LuAnn Palazzo** has joined SD Times as Art/Production Specialist. ■

# Reporting Services Built Into SQL Server 2000

Microsoft enables graphical creation of reports

BY JENNIFER DEJONG

Enhancing its enterprise database with enterprise reporting capabilities, Microsoft Corp. last month announced the availability of SQL Server 2000 Reporting Services.

Tightly integrated with Visual Studio .NET, Reporting Services allows developers to use the drag-and-drop approach to rapidly build reports based on data from multiple sources, including SQL Server, Access, IBM DB2, .NET, ODBC, OLE DB and Oracle databases, said Tom Rizzo, Microsoft's director of marketing for SQL Server.

Reporting Services enables developers to output reports in multiple formats by selecting formats such as CSV, Excel, HTML, PDF, TIFF and XML from a dropdown menu. They can then deploy the report to the server with a single click, said Rizzo.



Complex reports can be built in hours, not weeks, claims Microsoft's Rizzo.

"In the past, developers had to roll their own reports, generating tables and writing code to make the database calls," said Rizzo.

Alternatively, they used third-party reporting tools, such as Crystal Reports, from Crystal Decisions, which was acquired by Business Objects SA last year.

Microsoft estimates that by using Reporting Services, a developer accustomed to working in Visual Studio .NET could build a complex report that includes graphics, several hundred pages of data and drill-down capabilities in an hour. "Doing this yourself, in say, ASP.NET, consists of weeks of work, not hours," said Rizzo.

While Reporting Services is aimed at database developers who create in-house reports, such as a sales report that looks at how salespeople are performing

against their quotas, it is also important for enterprise developers, Rizzo said.

For example, a bank might develop a Web application that allows prospective customers to apply for a mortgage online. On a daily basis, the application needs to deliver custom reports to the bank's mortgage officers, as well as to its customers on the Internet, he said.

While Reporting Services is targeted at .NET developers, Java developers who use tools such as Borland's JBuilder can also use Reporting Services using the Web services API, said Rizzo, noting that it still has to be run on Windows.

Reporting Services is included in the SQL Server license, provided it runs on a server that is already licensed for SQL Server. Otherwise, additional licenses must be acquired. SQL Server standard edition costs US\$5,000 per processor; enterprise edition, \$20,000 per processor. ■

## AmberPoint Gets Graphic, Monitors HTML

BY YVONNE L. LEE

AmberPoint Inc. this week will begin shipping updates of its Web services management software suite, which can now monitor messages that travel using standard Web transport, and can monitor devices lacking XML drivers.

The new features carry across the Oakland, Calif., company's line of Web services monitoring products, said Ed Horst, vice president of product marketing. Those products include a service-level manager that monitors performance and availability, and keeps logs of that information; an exception manager that tracks out-of-range behaviors; and a management foundation for security and for maintaining grouped Web services. In addition, the company offers a slimmed-down free version of the service-level manager marketed to developers.

The management foundation now has a graphical tool to

create security and monitoring policies by using radio buttons and dragging boxes representing monitoring services to the items they should monitor.

The service-level manager can monitor information sent using HTTP as the transport, in addition to the SOAP messages that were monitored previously. By monitoring the HTTP stream, the products can get a more comprehensive view of the Web service, Horst said.

Further, he claimed that this extra information could give a more granular report of the Web service activity. For example, the products now can report the average service time and number of transactions per hour for an entire order shipment system, where in the past, it would report only the average service time for the individual Web services within the order system, according to the company.

The service-level manager

continues to monitor without requiring developers to add extra code to the Web services themselves, Horst said. "It would be easier for us to do it by making us change your Web service, but the chance of your going to [trading partner] FedEx and saying 'Change your Web service so that I can watch the interaction with it' are exactly zero," he said.

The suite includes a built-in scheduler designed to make it easier to run Web services during trading partners' business hours.

The free AmberPoint Express is now available to monitor WebSphere messages, joining versions that worked with .NET and Apache's Tomcat released last December.

No changes have been made to the exception manager, which was introduced in September 2003.

Pricing for the suite starts at US\$50,000, but the products can be purchased separately. ■



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# Laszlo 'Krank' Up Its Presentation Server

BY DAVID RUBINSTEIN

A performance optimizer and new user interface elements implemented in XML are the highlights of the release of Laszlo Systems Inc.'s Presentation Server 2.0, which became available last month.

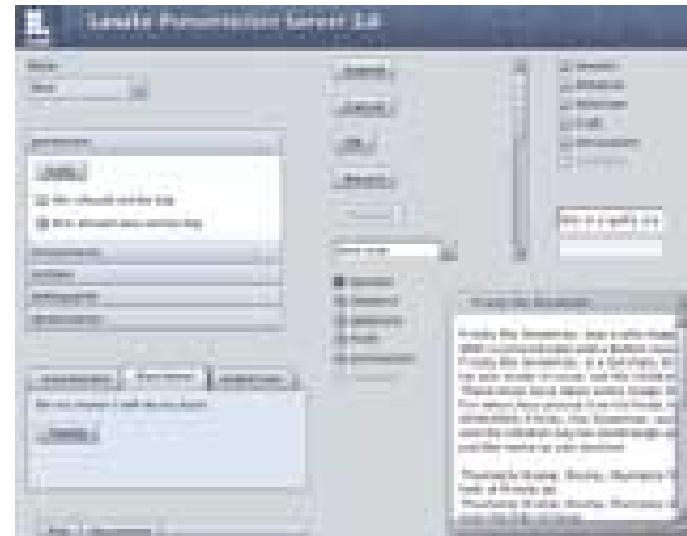
Developers don't want to have to create menus and check boxes, said Laszlo founder David Temkin, but they do want to be able to customize and extend them to suit a company's needs. A series of clicks in a components window allows users to choose color, size, texture and the like, Temkin explained. He also noted that the prebuilt components can be integrated in a visual way with other existing UI elements that might have been created in Adobe's Illustrator or Photoshop, or Macromedia's Flash.

"End-user expectation on the richness of the interface has gone up," Temkin said. "The industry is shifting that way."

The performance optimizer, called Krank, improves the time it takes Laszlo applications to start up on the desktop. Applica-

tions that run in a virtual machine, such as Java or Flash, require time to both download and initialize. And, every time an application is called after it has downloaded, it still must reinitialize the data structures. But Temkin claimed Laszlo applications eliminate the reinitialization by serving up the final application to the client each time. This is done, he explained, by having the browser take a snapshot of the contents of the virtual machine after the application is first initialized. That snapshot is pushed back to the Presentation Server, which then builds an optimized application in SWF file format (Flash bytecode), slots in all the values of the application, and then dumps it back to the client in its final form.

"When a Windows app starts executing, typically it'll create some in-memory structures, some that are very complicated," he said. "Then it'll load in modules or plug-ins. Acrobat Reader is a good example. The binary loads in quickly, but all the initializations take time, and



**Laszlo Presentation Server 2.0 components help streamline the process of building applications that offer a desktop-quality user interface.**

finally you see the window. Once the program has completed initializing, all the data structures the program has built up are in RAM. Suppose you could take a snapshot of the RAM allocated for that app, and bundle it up and create a new application from it so that when you launch it, all it does is load in the memory to the final state without the initialization code.

That's what we've done."

Temkin said customers are seeing about an 8x improvement in performance. One customer, Internet service provider EarthLink, planned to use the next version of the server just for that performance enhancement. "Krank helps us bring the benefits of broadband to our high-speed customers," said Tracy Boyd, director of EarthLink's

## ECLIPSE REVAMP

◀ continued from page 1

IBM Rational Software, emphasized that IBM is not reducing its investment in Eclipse. Although the company is required to contribute only eight developers to the newly formed organization, IBM will actually contribute between 100 and 150 developers, continuing its current level of commitment.

He estimated the value of the developers' collective contribution as "many millions of dollars a year," but he did not specify the actual cost. "We are making the same investment as we have all along," he said. "It's a good thing other companies are investing, too," he added.

Also holding seats on the board of directors are strategic consumers Ericsson, HP, Monta-Vista, SAP and Serena. They contribute a percentage of annual revenue to Eclipse, as well as one or two developers. The minimum contribution is \$50,000; the maximum, \$500,000. McGaughey said that a strategic consumer can meet part of its financial obligation by receiving a \$125,000 credit for each developer it contributes. For example, a strategic consumer with a

## MEMBERSHIP LEVELS

**Strategic Developers (3 members):** They contribute a percentage of revenue with a maximum of US\$250,000, and at least eight developers. Each holds a seat on the board of directors.

**Strategic Consumers (5 members):** They contribute a percentage of revenue, with a minimum of \$50,000, a maximum of \$500,000, and one to two developers. Each holds a seat on the board of directors.

**Add-In Providers (41 members):** They pay \$5,000 annual dues. The group is entitled to elect two representatives to the board of directors.

**Open-Source Project Leaders (0 members):** No financial obligation. The group is entitled to elect two representatives to the board of directors.

**Associates (7 members):** No financial obligation. No representation on the board of directors.

Source: Eclipse Foundation

\$500,000 obligation to Eclipse can contribute two developers and \$250,000.

The third category of membership, add-in providers, includes 41 companies that add to the base of Eclipse technology or develop components that run on top of that base. Add-in providers pay annual dues of \$5,000. As a group, they are entitled to elect two representatives to the board of directors.

The fourth category of membership is open-source project leaders. These are elected by their peers based on the quality of their contributions to the Eclipse codebase. Open-source project leaders are not required to pay annual dues. But as a group, they are entitled to elect

two representatives to the board, said McGaughey.

The associate level includes organizations such as universities, standards bodies and publishing companies that raise awareness about Eclipse. An associate member has no financial obligation to Eclipse, and the group is not represented on the board of directors.

### ECLIPSE AS THE JAVA IDE

McGaughey noted that as board members, open-source developers and add-in providers have the same rights as strategic developers and strategic consumers.

Colleen McClintock, director of business rules product marketing for ILOG Inc., said the

separation of Eclipse from IBM will further the adoption of the open-source framework. "From our perspective, IBM is trying to relinquish control to make it clear that Eclipse is a truly open platform. They want to make Eclipse the Java IDE, if you will," she said, noting that the recent emergence of the Java Tools Community drove Eclipse to become truly independent.

ILOG was expected to announce its membership in the Eclipse Foundation at Eclipse-Con. The company also is expected to announce an Eclipse version of its business logic product JRules in the near future.

McGaughey noted that the foundation has raised \$1.5 million, although it was looking for only \$1.2 million to pay the salaries of the executive director and members of the management staff. "Companies are joining, and they are contributing their money," he said, emphasizing that Eclipse is royalty-free and that a company is not required to have any affiliation with the Eclipse Foundation to use or redistribute Eclipse code.

### OPEN LETTER FROM SUN

On Jan. 30, a few days before Eclipse was expected to

Personal Start Page product. The company is building the Krank optimizer into its start page to avoid reinitializing it each time a user returns to it, and to allow the company to send real-time weather reports, stock quotes and video without users having to refresh the page. "It brings the benefit of client technology to the Web," Boyd said. "You get the speed and functionality of a clientlike application without the problems of accessing pages and refreshing. It's just being pushed at you in real time. We're the only ISP using rich Internet applications on the front door of its portal product."

Temkin said Laszlo's Web site can teach developers how to write applications for the server more quickly by making the site's documentation interactive. "Developers can edit and experiment with the code live and learn directly from that," Temkin said.

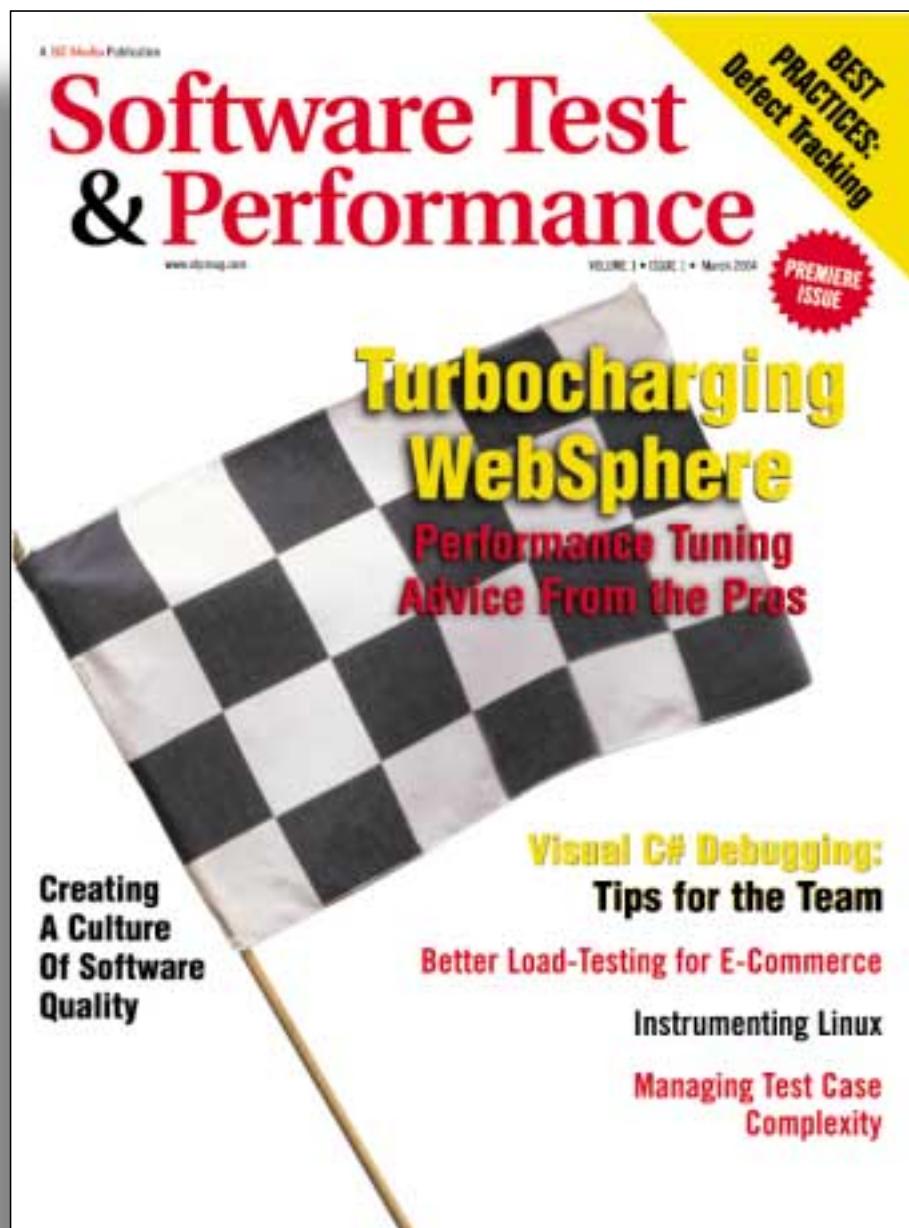
The developer edition is free; commercial deployments of the server cost US\$22,500 per server processor. ■

announce its formal separation from IBM, Sun Microsystems Inc. posted on its Web site an open letter to Eclipse members urging Eclipse to work with Sun to find a solution "where Sun can be an open contributor to Eclipse, and Eclipse can do the same for the NetBeans platform."

In an e-mail response to Rich Green, vice president of Sun's developer tool group, Dave Bernstein, senior vice president at IBM Rational and the primary architect for the independent Eclipse organization, said: "The invitation for Sun to join Eclipse at the board of directors level—extended unanimously by the Eclipse [board of] stewards—does not require Sun to abandon or in any way deprecate the NetBeans platform. It requires Sun to take development leadership of one or more Eclipse projects and pay annual dues, as is required of every other strategic developer."

Bernstein said Sun is welcome to join Eclipse at any level: strategic developer, strategic consumer or add-in provider, and that "the Eclipse Foundation's new board of directors would be happy to discuss this with [Sun]." ■

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## SCO 'DEFENSIVE'

continued from page 1  
timing of the filing of our lawsuit," he said.

Stowell portrayed his company, which last May sued IBM for misappropriating trade secrets and has threatened further lawsuits against Linux

users, as being on the defensive.

"With the Novell case, we're just defending what's rightly ours," he said.

This new case against Novell is for trade libel, or making false statements about a company's product. Specifically, SCO is charging that Novell is claiming to own something that it

doesn't, Stowell said.

Both SCO and Novell are claiming they own Unix and UnixWare copyrights. Without copyright ownership, SCO cannot charge Linux users license fees even if it were to be proven that Unix code is in Linux. "We bought a home, and eight or nine years ago by [and] the person that

sold the house puts a tent in your front yard," said Stowell.

SCO will have a high level of fault to prove. Current trade libel law comes from the 1998 California Court of Appeals decision in *Melaleuca v. Clark*, where the court held that the disparaging statements must be false, and they must be made with actual

malice, which is defined as knowledge of falsity or willful disregard for truth. The lower level of fault, simple malice, does not require that the person making the false statement know that the statement is false.

As for the suit, Messman at LinuxWorld said, "Litigation has become SCO's principal line of business.... We will vigorously defend the lawsuit and pursue our Linux initiatives."

Earlier in January, SCO sent a nine-page letter to each representative and each senator in Congress. The letter asserted that open-source software, and particularly software based on the GNU license, including Linux, is dangerous to the nation's economy, to America's ability to lead the world in technical innovation, to America's international competitive position, and to its national security.

SCO repeated its contention that software based on the GPL contradicts U.S. copyright law. It also repeated its assertion that Unix code was illegally copied into Linux. It asserts that such software could give America's enemies or potential enemies "computing capabilities that are restricted by U.S. law."

Stowell would not say what his company hoped legislators would do as a result of the letter or specify what kind of legislation SCO is seeking. He called it a "letter of introduction" and said his company planned more congressional lobbying.

The Washington, D.C.-based open-source lobbying group Open Source and Industry Alliance ([www.osia.org](http://www.osia.org)) called the assertions "outrageous and false," and pointed out that open-source software is subject to the same export restrictions as closed source.

Lobbyist Jonathan Zuck, president of the Association for Competitive Technology, called the distinction between open and closed source specious, adding that there were 85 different open-source licenses and almost as many different proprietary licenses. He said the real issue was protecting intellectual property and giving customers the ability to choose the best software based on total cost of ownership.

GPL software is not a danger to security except where government bodies added changes to GPL software, which he said would require the agencies to make those changes available to other developers. ■

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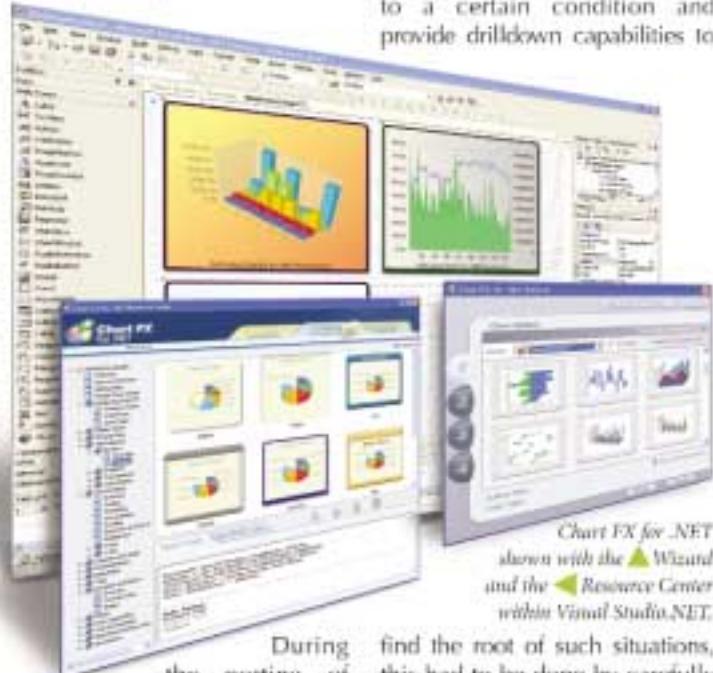
**PERVASIVE**  
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# Software FX gets a taste of its own medicine

## Self implementation increases understanding of customer needs

Most developers agree that the one thing you can count on with code is that it will change. When changes happen, most of us don't have the time to go through each line of code. Although components aren't an absolute requirement for development, they can save you significant time when making code changes. Components reduce the mundane engineering that developers worry about like portability, interoperability, scalability and performance. And that's a big advantage.

So, if you think of components not as something that eliminates the need to write code, but instead as something that makes the process of writing code in a larger system manageable; you may have come up with a solid conclusion. The understanding that having a component-based application is important, not because somebody told you so, but because you understand the benefits it brings to the development process.



During the porting of Software FX's corporate intranet to ASP.NET that we came to experience and realize what .NET had to offer and the challenges involved with porting a functional application to a new platform. To us it was like a *taste of our own medicine*, as most of our intranet reports were built using our own product, Chart FX.

Interestingly, our developers had

little problems or concerns connecting Chart FX to a myriad of data sources like SQL, XML and text files coming from external distributors. Similarly, they didn't report any security, performance or scalability issues; or complain about porting old Chart FX code, most of which were legitimate concerns when we decided to make the switch to .NET.

Instead, we quickly realized our developers spent an unusual amount of time coding business rules and logic that would help upper management visualize areas that needed attention to make critical business decisions. Ultimately, we concluded that developers could not divorce themselves from coding and configuring data-presentation components since they were coupled directly to the data extraction process. Therefore, they couldn't embrace the code-behind concept that separates code from the presentation layer. For example, we wanted chart markers to be colored according to a certain condition and provide drilldown capabilities to

part. To us, that was a major accomplishment since Chart FX for .NET provides over 800 properties, methods and events that they didn't have to learn before they could be productive with our tool. The last thing you want to do when porting an application to .NET is spend significant resources learning how third-party components work and behave.

### From Primary Care to Specialist

However, in the end we found ourselves in a situation where the GUIs, and especially the charts, were tightly bound to the data. And as a result, if any business rules changed or any of our data itself changed, it had this tremendous rippling effect throughout our code. We knew this situation would make our intranet unable to respond to future business needs. In other words, an application that although built with the latest .NET technology, was resistant rather than resilient to changes.

This situation reached dramatic proportions when our developers were investing countless hours trying to satisfy the information needs of our sales, marketing and support departments. At this point, they were concerned that we were diverting from the original project and were still far from completion.

The solution, to us, was simple: *Chart FX Extensions*.

With these extensions, Chart FX provides easier integration to connect more meaningfully with your data. This means developers are no longer required to spend countless hours configuring a generic charting component to specific data. Instead, the Chart FX Extensions can be stitched together to adapt to data sources enabling organizations to quickly and economically gain access to specialized solutions that meet unique business needs.

To the right are a series of snapshots about the Chart FX Extensions and how we were able to consume them for our own benefit. In the end, Chart FX had the cure for what ailed us.

### How does marketing keep track of where products sell?

This is performed by a different set of queries that integrate data from our internal point of sales system as well as data coming from external distributors, each of which has its own different IT system. We ended up with an ASP.NET page that would take data from a variety of sources, including SQL and XML, and map the data using universally supported SVG images. **Chart FX Maps** would simply take this data source and would allow logical groupings and views that would otherwise take weeks to code. Get more information at [www.softwarefx.com/maps](http://www.softwarefx.com/maps).



### How do our managers slice and dice our sales data?

We OLAP-enabled our point of sales system using SQL Server Analysis Services and integrated to connect to a multi-dimensional data source that is navigated without additional efforts from our developers. The result: a simple ASP.NET page that exposes a chart with a powerful, yet simple, user interface that allows data pivoting, drilldown and slicing to present data views that would otherwise take months to code. Learn more at [www.softwarefx.com/olap](http://www.softwarefx.com/olap).



### How do we analyze thousands of leads?

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# Microsoft's JLCA Moves 'Up the Stack'

BY JENNIFER DEJONG

As part of its ongoing effort to lure Java developers to .NET, Microsoft Corp. last month announced the beta availability of version 3.0 of the Java Language Conversion Assistant (JLCA), which converts existing Java code to Visual C# .NET.

JLCA is part of the company's Java User Migration Path (JUMP) to .NET strategy. New to the JLCA release is support for J2EE 1.3 and JDK 1.3 libraries as well as EJB, JAAS, JCE, JMS, JNDI and RMI, said Brian Keller, Microsoft product manager for Visual Studio .NET.

The previous version, 2.0, shipped in July 2003 and added support for JSP, servlets and applets. "With 3.0, we are moving up the J2EE stack," said Keller. The new version also improves JLCA's client conversion capabilities, providing deeper support for migrating Swing applications, he said.

"Each subsequent version of JLCA converts a greater percentage of code that does not require tweaking," said Keller, noting that no conversion tool

## SIMILARITY SUITE GETS UNICODE

BY EDWARD J. CORREIA

While the Internet gives any company the potential to conduct international transactions, the language barrier remains one lingering difficulty. Hoping to help smooth those differences is Similarity Systems Ltd., which in late January added Unicode to Athanor 2.8, the latest version of the company's data quality management suite.

"As organizations leverage business around the globe, Athanor ensures that CRM, ERP and data warehousing provide an accurate, consistent view of customers, suppliers and inventory along the entire supply chain," said Gary Moroney, CEO of Similarity. The Athanor suite includes a drag-and-drop environment for Windows that can be used to build and deploy data quality rule sets for data profiling, standardization, matching and consolidation.

Available now for Unix and Windows servers, Athanor 2.8 works with data from IBM's DB2, Oracle, Microsoft's SQL Server and ODBC databases. ■

entirely eliminates the need for tweaking.

Keller noted that JLCA 3.0 is highly sensitive and that many of the "errors" it reports aren't actual errors. They are alerts, intend-

ed to notify the developer of a potential problem. For instance, because there are differences in the ways Java and .NET handle the ToString method, JLCA will alert you when a Java ToString

is converted to .NET, so you can make sure that piece of code is performing as you expect it to. "Ninety percent of the errors you can delete and ignore," said Keller.

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## APACHE

◀ continued from page 1  
required for all Apache projects beginning March 1.

"We want to make sure open-source projects are as protected as possible," said Roy T. Fielding, a co-founder of the Apache foundation who wrote most of

the revisions for the 2.0 version of the license. Fielding added that while many of the terms of the license were revised, no changes were made relating to scope of use. "The ability to use Apache software in commercial or noncommercial implementations, open-source or non-open-source, is all the same."

With increasing light being thrown on intellectual property issues, Fielding claimed the new license affords Apache and third-party users certain protections against patent infringement.

The new Apache license adds a requirement that contributors who knowingly infringe upon their own patents in a contribu-

tion provide a license protecting Apache and third-party users from claims.

"We don't want people applying for patents and then five years down the road when they receive the patent to go after people who have implemented Apache software a certain way for patent infringement."

ment," Fielding explained.

He noted that if any litigation results from this type of patent infringement, any patent licenses granted under the terms of the Apache license would be terminated.

He acknowledged that in certain cases, contributors to the Apache codebase might unknowingly offer patented software, and said Apache would simply remove that code upon its being made aware of that circumstance. The situation becomes complicated, though, when the question of how a company whose patents were inadvertently violated in an Apache contribution would go after a third-party user of that software for correction. "How that will be interpreted by the courts is up in the air," he admitted.

The new licensing agreement also is now more generic, allowing reusers of Apache code to use the same files without changes to the licenses. Specifically, Fielding said, mentions of Apache software have been stricken. The Apache license can be referenced in files now, where the earlier versions of the license required it be included in every file. Users also can add their own liability and warranty protections on top of the license.

Some in the open-source community had hoped Apache would bring its license more in line with the GNU GPL, which requires anyone altering the code to turn those changes back to the community. Marc Fleury, president of the JBoss Group, argued that the BSD license, upon which the Apache license is based, leads to instability in the code because changes can be made but don't have to be shared. He claimed the only known open-source business models that are successful came from GPL and LGPL licenses.

Fielding called that a philosophical difference, and said Apache places more value on the community than on the code, because technology advances force changes in the code every few years. "We think contributions should be freely given and not coerced," he said. As for JBoss, Fielding said the company portrays itself both as an open-source group and a commercial company. "It only makes sense that they use the GPL. We have different goals. We're a nonprofit foundation for the public good." ■

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# Major Vendors Demonstrate Support for Linux

## HP, IBM, Sun roll out initiatives to help operating system grow in enterprise

BY JENNIFER DEJONG

Hewlett-Packard Co., IBM Corp. and Sun Microsystems Inc. demonstrated continued support for the Linux open-source operating system by announcing new initiatives last month at LinuxWorld, held at the Jacob K. Javits Convention Center in New York.

IBM, as part of its "Speed-start your Linux App" program, announced the availability on [www.ibm.com/developerworks/offers/linux-speed-start](http://www.ibm.com/developerworks/offers/linux-speed-start) of a

new DVD software evaluation kit, which provides resources to help developers build Linux applications using IBM middleware, said Kathy Mandelstein, IBM's program director of worldwide developer marketing. The free kit includes code for Rational Rose and PurifyPlus for Windows, WebSphere Studio Site Developer V5.1 or WebSphere SDK for Web services V5.1, WebSphere Application Server

V5.0.2, DB2 Universal Database, PDE V8.1.3, Tivoli Access Manager V4.1 and Lotus Domino Server V6.0.2.

IBM also launched a series of more than 50 Linux technical briefings, which kicks off this week on Feb. 16, said Mandelstein. Developers can view the schedule of cities and dates at [www.ibm.com/developerworks/offers/techbriefings](http://www.ibm.com/developerworks/offers/techbriefings) and register free of charge.

Sun announced a new Linux

community on community.java.net/linux, with Linux-specific content on such Java topics as threading issues and JVMs, according to Sun group marketing manager Jeff Anders.

At LinuxWorld, Sun previewed a version of Java Studio Creator (code-named "Project Rave") running on Linux, which the company expects to release the middle of this year, said Anders.

HP announced at LinuxWorld that the company has

generated US\$75 million in Linux revenue as a result of its Solaris-to-Linux Lifeline migration program that began in early 2003. The program provides services that help developers port applications to Linux from Solaris or any "Unix-like" operating system, said Nick Collins, Linux marketing communications manager at HP. He also noted that Linux accounted for \$2.5 billion of HP's \$73.1 billion in revenue for the company's 2003 fiscal year. ■

## NOVELL

**◀ continued from page 1**

Messman. "It really was the worldwide support that SUSE wanted from UnitedLinux. Novell has been offering worldwide support for operating systems for 20 years."

The point may be moot, as the future of UnitedLinux itself is uncertain. In mid-January the organization lost its general manager, Paula Hunter, who left to join the Open Source Development Labs, and fired its public relations agency, which now refers inquiries back to member companies. "United Linux's job is done," Hunter told SD Times without specifically stating that the corporation would be dissolved.

In response to the lawsuit announced against Novell by SCO on the eve of the conference, Messman read a statement prepared by Novell's legal counsel. "Litigation has become SCO's principal line of business. Novell is in good company with IBM and Red Hat. We will vigorously defend the lawsuit and pursue our Linux initiatives."

Messman went on to characterize the company's legal footing as sound. "When we sold the business to what is now SCO, we kept the rights to existing licenses with Sun, HP and others....We kept the copyrights and we took a license [called the Technology Licensing Agreement] that gives us the right to use Unix. Any Unix we have in Linux we have the right to use. We also got some rights from UnitedLinux."

Meanwhile, there were two large Novell and SUSE exhibits

directly in front of the hall's main entrance that were as obvious as the messages delivered by Novell executives. Traffic at both booths was brisk as Novell demonstrated major improvements to Web services delivery in its Extend 5 portal development kit and a beta version of its GroupWise collaboration suite running on Linux.

### BUILDING ON ECLIPSE

Never known for its development tools, Novell also announced that it has joined Eclipse and will unify all of its development tools under a single Eclipse umbrella.

According to Novell vice chairman Chris Stone, the move

gives Novell far more cachet than simply licensing someone else's tools or building more of its own might have. "This gives developers more reason to work with us. We no longer have the respect to force some proprietary solution down their throats. Eclipse provides a good open-source IDE, works with Mono, binds to C# and Java, and allows us for the first time to unify our development platform," which Stone said will include a new front end for Extend; he did not specify when.

With the help of IBM, Nov-



**Novell has rights regarding Unix in Linux, says Messman.**

ell also is making inroads into government, military and other markets where ironclad security is paramount. The two companies announced that SUSE Linux Enterprise Server 8 with Service Pack 3 on IBM's eServers has achieved Controlled Action Protection Profile compliance under the Common Criteria for Information Security Evaluation (CAPP/EAL3). "It means you can trust open-source software," explained Stone. "It's third-party validation; a 'trusted Linux' if you will."

For now, the certification

covers only the stated configuration, but Stone and Seibt said they want to carry the certification to a higher level than the EAL3 level, and bring it onto other hardware.

The companies also unveiled compliance under the Common Operating Environment (COE) with SUSE Enterprise 8 running on IBM's xSeries and zSeries; support for pSeries and iSeries is expected by summer. COE was created by the Department of Defense and specifies capabilities, including interoperability requirements, for IT products commercially acquired within DOD command and control systems. ■

*David Rubenstein contributed to this story.*

## Novell's Extend 5 Embraces Portlet 1.0

### Complies with Java specification

BY YVONNE L. LEE

An update to Novell's Extend Web services suite was announced at the LinuxWorld Conference and Expo, highlighted by the addition of tools to make portlets that work with Java portals from other vendors.

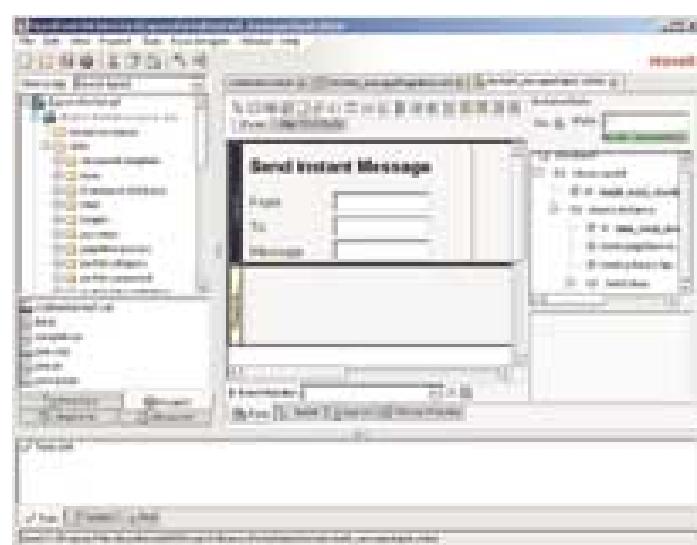
Extend 5 supports Sun's Java Community Process JSR-168 Portlet 1.0 specification, said Ashish Larivee, director of product marketing. That means that Extend 5 creates portals that will work with portlets written according to the specification and that portals written to the specification can use portlets written with Extend 5 tools.

The new version offers wizards that ease the creation and deployment of portlets, said

Larivee, who added that Extend 5's visual tools make it possible to create portlets without writing any code.

The product suite also complies with the W3C's Xforms standard, which was released last October. The standard specifies a new kind of Web form that can be used by various kinds of devices, such as computers, handhelds and televisions, as well as voice browsers.

Extend now works on Novell SUSE Linux in addition to NetWare, Solaris and Windows, on which the previous version ran. Extend now supports deployment to Apache's Tomcat open-source servlet container; the previous version worked with BEA's WebLogic and IBM's Web-



**Extend 5 now can design forms that can be used on various devices.**

Sphere application servers.

Pricing for Extend 5 Professional edition is US\$50,000 per processor. The Enterprise suite, which adds content manage-

ment, workflow, business process management and additional connectors for Telnet, HTML and Java Message Service, is \$120,000 per processor. ■

# Integrating Data, Apps on Same Platform

Cape Clear says Data Interchange product heralds 'new, simplified era of EDI'

BY DAVID RUBINSTEIN

Integrating applications written in different languages, or running on different platforms, is one thing. But when you also need to bring in structured and unstructured data from different warehouses or relational databases, which are stored in disparate formats, the solution can become quite costly and complex.

So said Annrai O'Toole, co-founder and chief executive of Cape Clear Software Inc., which has introduced a new product called Cape Clear Data

Interchange, a visual tool that uses Web services to bring together both applications and data into the same platform for integration.

O'Toole explained that Data Interchange interrogates a company's back-end systems, pulls out the relevant information and automatically generates a Web services wrapper for that information.

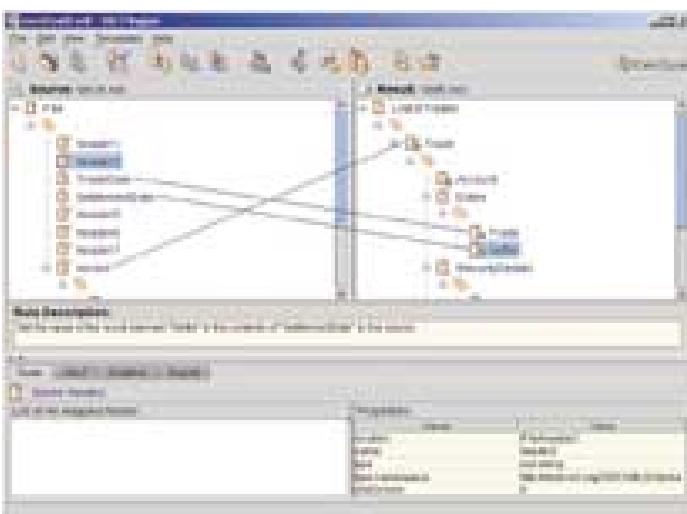
"We look at the COBOL copy book that describes the parameters," O'Toole added. An agent sits close to the company's firewall and intercepts all

incoming messages, which are mapped into XML, from which transformations can be built to all the formats the back-end systems will accept. It also routes the message to the proper place, he said.

He said Data Interchange is used at J.P. Morgan Chase & Co., where customers want to send trades in Microsoft Excel spreadsheets and other file formats, while the company's back end is a set of COBOL applications running on mainframes with industry-specific Swift messages used internally. "This

really introduces a new, simplified, low-cost era of EDI," he claimed.

Data Interchange, O'Toole said, is the next logical extension of the company's line. "When people think of Cape Clear, they think of Web services," he asserted. "I think as a company we've been consistent in what we're trying to do.



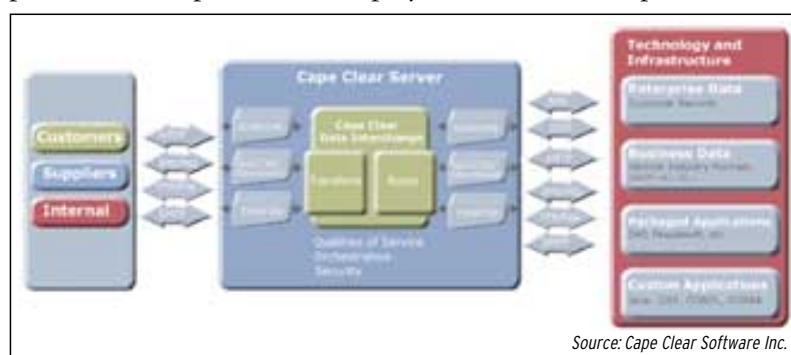
Data Interchange allows users to visually map between file formats.

Integration is a huge problem that affects every large and medium-sized business."

The Dublin, Ireland-based Cape Clear was formed with integration as its core mission in 1999 by O'Toole and other executives from Iona Technologies Inc.

The price for a full configuration of Data Interchange

begins at US\$75,000, O'Toole said. He also indicated that the company will be adding workflow and messaging into its Business Integration Suite, which includes Cape Clear Studio, Manager, Integration Server and Data Interchange, but no decisions have been made yet as to how those capabilities will be packaged. ■



Data Interchange sits inside the server to intercept, transform and route messages.

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# New SD West Event Aspires to Inspire Innovation

BY EDWARD J. CORREIA

The contributions of most software developers will not change the world. But for developers inspired by achievements such as the invention of the electronic spreadsheet and groupware, a new event at this year's Software Development Conference and Expo West is sure to be of interest.

According to show organizer CMP Media LLC, SD West this year will feature Programmers at Work 2004, the idea for which came from a book of the same name. The book's subtitle, "Interviews with 19 programmers who shaped the computer industry," describes not only its contents but also the conference panel, which will

include such industry pioneers as Adobe co-founder John Warnock, Word and Excel pioneer Charles Simonyi, Macintosh operating-system developer Andy Hertzfeld, and Lotus Notes inventor Ray Ozzie. Author Susan Lammers, former editor of Microsoft Corp. publishing arm Microsoft Press, will moderate the discussion on

March 17 starting at 7:15 p.m.

This year's show will present 134 new classes, some along a new "emerging technologies" track, which organizers said will include development issues surrounding wireless and grid computing, and the D programming language, introduced in 1999 by compiler developer Walter Bright as an alternative

to C/C++ that shares attributes of those languages as well as some from C# and Java. Bright also will host the session.

Unlike SD Best Practices, its East Coast counterpart formerly known as SD East, SD West will keep its name and usual location at the Santa Clara Convention Center in Santa Clara, Calif., and will run from March 15 through March 19. ■

## INNOOPRACT'S ECLIPSE PLUG-IN BUILDS INTERFACES

BY YVONNE L. LEE

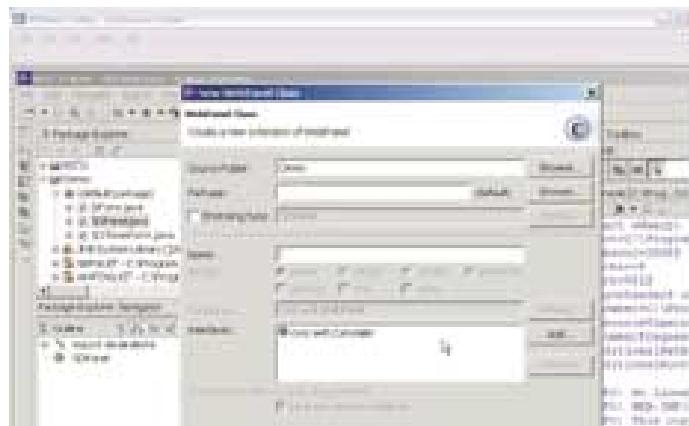
German company Innoopact Informationssysteme GmbH in late January began shipping an Eclipse plug-in program that it says makes it easier to create Java-based user interface elements such as radio buttons, index cards and drop-down menus, and make them operate on interactive Web sites.

The product, W4T Eclipse, is designed to compete against Sun's Java Studio Creator (formerly Project Rave), as well as

Microsoft's Visual Studio .NET and Flash-based tools from Macromedia, said Eric von der Heyden, managing director of Innoopact.

W4T has a built-in Web browser pane in which users design the interface by clicking on tools just above the pane. Developers can save interface elements in the Package Explorer and reuse them in future projects.

A developer license, which is limited to five concurrent users



Innoopact's W4T works within Eclipse to extend Java classes.

and a single server, costs US\$129. Production runtime licenses start at \$199 and vary depending on the number of concurrent ses-

sions supported. The Enterprise Edition, which supports an unlimited number of concurrent sessions, costs \$3,300. ■



**CONFERENCE:** March 15-19  
Santa Clara Convention Center

**CLASSES:**  
**Wednesday**, 8:30 a.m.-5 p.m.  
**Thursday**, 8:30 a.m.-5 p.m.  
**Friday**, 8:30 a.m.-5 p.m.

**EXHIBITS:**  
**Tuesday**, 5 p.m.-7 p.m.  
**Wednesday**, Noon-6:30 p.m.  
**Thursday**, Noon-6 p.m.

**KEYNOTE:**  
**Monday**, 12:15 p.m.-1:15 p.m., "Code Completion 2: A Decade of Advances in Software Construction," Steve McConnell, chief software engineer, Construx Software Builders Inc.

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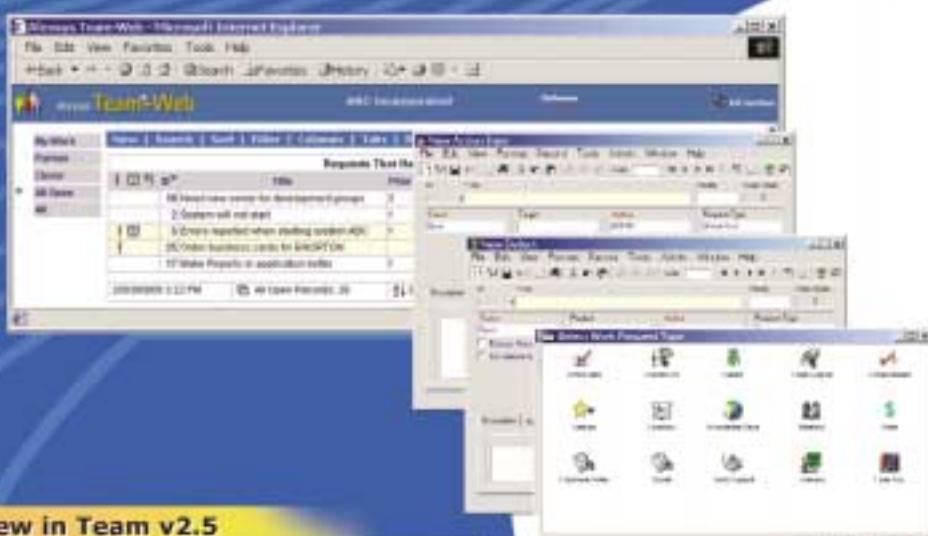
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# Red Hat's eCos: Going, Going, Gone

**Company transfers rights to Free Software Foundation, now sole proprietor**

BY EDWARD J. CORREIA

Write another chapter in Red Hat Inc.'s book on eCos, the real-time operating system it acquired along with Cygnus Solutions in late 1999 and then abruptly dropped with most of its developers in 2002. Red Hat has transferred ownership rights to eCos source code to the Free Software Foundation.

According to Red Hat CTO Michael Tiemann, the move is a vote of confidence for the FSF. "eCos is very important to a great many people. We feel that the Free Software Foundation will continue to shepherd the code properly and continue its life."

But, despite its importance to the industry, eCos was not a good fit for Red Hat's enterprise customers, Tiemann said. "Just because something is

good doesn't necessarily mean it's good for everyone. Red Hat [Linux] finds its way into many embedded enterprise designs already," and development of a second operating system did not fit in with the company's strategy, he added.

Tiemann attributed the 17-month lag between its deci-

sions to cease eCos development and to donate the code to a careful effort to remove any parts that were inappropriate for open source. "Like when Mozilla announced it was opening its source code, it took a long while to get all the contributed parts out."

Providing an alternative ac-

## EVOLUTION OF THE eCOS SYSTEM

**1998** - Gary Thomas develops the Embedded Cygnus Operating System (eCos).

**1999** - In November, Red Hat Inc. acquires Cygnus Solutions for US\$647 million in stock.

**2001** - In March, Red Hat releases eCos 1.3.1, its last revision.

**2002** - In February, Red Hat

halts eCos development, fires staff.

**2002** - In April, eCosCentric Ltd. is founded by former Red Hat employees.

**2003** - In September, eCos 2.0 is released by maintainers.

**2004** - Red Hat releases eCos rights to the Free Software Foundation.

counting of the time lag was Alex Schuilenburg, CEO of eCosCentric Ltd., whose company he claimed was among those approached by Red Hat about eCos. "Red Hat was looking for buyers in early 2002 and was asking seven-figure dollar sums. But being a small company, we could not afford that," he said.

Schuilenburg, one of four original eCos developers who started eCosCentric in April 2002 after being laid off by Red Hat, claimed to have firsthand knowledge of other companies that either approached or were approached by Red Hat about eCos. "I work with most of the original eCos developers, who told me they were contacted by companies" considering a purchase of eCos, but only if the developers would also come

work for them. "But none of them would go," he said. Of the companies, Schuilenburg would say only that they were multimillion-dollar firms located in Europe, Japan and the United States. Tiemann denied knowledge of any such talks.

Still, Schuilenburg said the move was a positive step. "Red Hat is a commercial organization and was free to do with eCos what it wanted. Now there will be a single copyright holder, and developers know that the code will always be free to use." The eCos copyright was previously shared by Red Hat and eCos contributors. "Now money generated by a not-for-profit organization will be plowed back into the community, not into the pockets of Red Hat shareholders," he said. ■

# New W3C Spec Opens Web to More Devices

BY YVONNE L. LEE

Despite the presence of Web-capable mobile phones and handheld computers, the Web is still best viewed by personal computers, much as when it became popular more than a decade ago. That, though, could change with a new specification from the World Wide Web Consortium (W3C).

The specification, Composite Capability/Preference Profiles (CC/PP), spells out a way for devices to communicate their capabilities and user preferences to servers.

"Our interest in this whole area is that authors can write their Web pages once and not worry too much about which devices are going to be able to connect and use that information," said Rhys Lewis, chair of the W3C's Device Independence Working Group, which authored the specification.

For example, the profiles tell servers that a device is a cell phone with a small screen and not a computer with 800 x 600 minimum resolution, so the servers should send it framed Web sites as staggered lists. This is what the W3C calls "delivery context," where the device characteristics, user preferences and constraints put requirements on how content

can be effectively displayed.

In addition, one of the W3C's missions is universal access, so this specification can be used for such instruments as screen readers for the visually impaired.

"A Web site might be able to behave differently if it knows that the person is using something other than a color screen with keyboard," Lewis said.

CC/PP has been through the W3C's voting and review process and is now finalized, although the expression "recommendation" may give the impression that it is still pending, said W3C spokesperson Janet Daly.

"When something becomes a recommendation, people begin to implement it," Lewis said.

Even before the recommendation became final, Sun Microsystems Inc.'s Java Community Process in October released an extension for the Java 2 Enterprise Edition platform, JSR-188, that makes it possible for a Java Web server to access and use CC/PP information provided by a client device.

Sun has incorporated a JSR-188 reference implementation in its Sun Java System Portal Server, said Adam Abramski, a Sun product line manager.

According to the JSR-188 working group, Web servers

and applications will be able to use the API to adapt content for individual devices. Portal servers will be able to use it to adapt content and pass on delivery context information to portlets that would adapt their

behavior accordingly.

After finishing CC/PP Structure and Vocabularies 1.0, the Device Independence Working Group, which included W3C members and invited experts, plans a revision of the 1.0 spec-

ification to include the final version of Resource Description Framework (RDF) data typing, which is being developed by the W3C RDF Core Working Group. RDF data typing is a general-purpose language for representing information in the Web with a goal of exchanging information between applications. ■

## PALM OS 6 TO PERMIT NATIVE ARM APPS

BY EDWARD J. CORREIA

PalmSource Inc. was set to make Palm OS 6 generally available at its annual PalmSource conference in San Jose on Feb. 10.

Although the company has been characteristically tight-lipped about what will be inside its new operating system, code-named "Sahara," SD Times has learned that Palm OS 6 will permit entire ARM applications to run natively. Previously, developers were restricted to using small amounts of native code, called ARMlets, to gain direct access to the ARM processor.

The new operating system, which was released to licensees on Dec. 29, also reportedly will offer multiprocessing and multithreading, support for XML and SOAP, a reference JVM and enhanced



Palm OS 6-based screens might look like these, posted on the Palm developer site [palminfocenter.com](http://palminfocenter.com).

x 320 resolution used by Pocket PC. Version 5.3 also included an API for using the new screen space for input, which the company refers to as dynamic input area. The idea was introduced by Sony almost two years ago as its so-called Virtual Graffiti.

Another new screen resolution, 160 x 220, gives low-end devices slightly more screen real estate to work with than the previous 160 x 160. The company also added the Simplified Chinese character set, following the opening in December of a subsidiary in Hong Kong and licensing agreements with several Chinese device makers, developers and training centers. ■

capabilities in multimedia and security, and will adhere more closely to wireless communications standards.

The conference comes on the heels of the late January shipment to developers of Palm OS 5.4, a maintenance edition built on 5.3, released in August with beefed-up screen resolution, including support for quarter VGA (QVGA), the 240

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# Defect-Tracking Tools: Price Vs. Performance

**Users want more controls,  
more integration, but balk  
as complexity, costs begin to climb**

BY DAVID RUBINSTEIN

The days of the stand-alone defect-tracking system may be numbered. As software projects continue to become more complex, and as development teams become more heterogeneous and widely dispersed, development managers are looking beyond individual point solutions, preferring instead broader systems that extend beyond bug tracking, feature requests and other issues.

But while those managers express their desire for more functionality and tighter integration with other project-support systems, they still are keeping one eye on the budget and are leery about adding more complexity into their development server room. This creates challenges and opportunities for defect-tracking-system vendors, as well as those who offer synergistic code management, version control, requirements management and other collaboration software. That's because the ability to address these myriad problems in a single, cost-effective tool that can be used collaboratively by multiple business units still is lacking, according to several enterprise development managers.

Part of the problem is budget, as these full solutions—such as IBM's Rational Suite and Merant's Dimensions PVCS—can be expensive in terms of price and training time, according to Sean Sides, technical configuration manager for the information systems group at Denver-based health-care insurer Great-West Healthcare. "There isn't a disconnect" between what developers need and what vendors are offering in terms of functionality, he said. "The reality in organizations is a budget issue."

Sides said Great-West was running numerous independent projects with the defects being logged through spreadsheets, which he said was very manually

intensive and did not offer the company a means to easily trace defects throughout the organization and deal with repeat offenders in a uniform way, such as by creating policies. "We've been doing this 12 years, and we definitely see the trend toward larger packages" that encompass more than mere defect tracking, he said. With those solutions, Sides added, "there aren't pieces to connect via automation or scripting."

Sides said Great-West does much of its development for Microsoft's .NET environment, yet is ramping up with a number of Java projects. "We went to .NET two years ago, and there was definitely a learning curve. The resulting code was more buggy, but I think a lot of that was due to more training being needed and not quite having a clear understanding of the platform at that time," he said.

He added that Great-West initially licensed PR-Tracker from Softwise Co. to begin managing software defects, but is planning to move to SCM Lab's Quartet, which also offers version control, release management and change management. "There's no way to assimilate change requests with version control in PR-Tracker. It's just not as robust and customizable as the big boys," he said.

Not all defect-tracking vendors want to add lots of new functionality to their tightly tuned software. For example, the keepers of the open-source Bugzilla defect tracker are trying to avoid complexity. "We don't want to bloat it or make it more complex," said David Miller of the project. "One of the main focuses is to keep it as a bug tracker," he said, despite users who have expressed an interest in being able to do project management in the tool as well.

Miller said the Bugzilla team is working on improving the modularity of the source code, rearranging it so common



code is put together in a more object-oriented type of structure. "As features are requested, things get hacked into it, and that has complicated the scripts," he said, adding that there are currently 600 or 700 open feature requests for the software. "People want to be able to run it with other databases, but it runs now on MySQL," he said. "PostgreSQL is likely to make it into mainline projects," he projected. Also, he said, users are asking to have Bugzilla run more easily on Windows environments.

#### A COMMON DASHBOARD

Jacob Florentin, technical coordinator at Uniondale, N.Y.-based Open Link Financial, said users of defect-tracking and other related tools would benefit from a unified dashboard-type approach

that provides all parties with information that is relevant to their jobs.

Open Link Financial builds trading systems for the financial and energy markets, Florentin said, adding that the time lines and requirements associated with creating software in those markets often don't allow for too many controls on software development, making the tracking portion all the more critical. "This is a tough act to put together," he said. "Our clients are very big with big demands, and we need to operate very fast."

Among the features Florentin would like to see rolled into a larger solution are

► continued on page 30

# Creating Quality From Architectural Standpoint

BY DAVID RUBINSTEIN

Software quality analysis—another of the highfalutin terms to evolve from bug tracking—is finding a new advocacy group in the unlikeliest of places: the Architecture-Driven Modernization task force working under the auspices of Object Management Group Inc.

Originally conceived as a way to transform legacy systems for reuse in more modern code platforms, the modernization effort is designed, first, to give organizations a better understanding of their codebase, according to task force co-chair Djenana Campara, who also is chairperson and CTO of Klocwork Inc., which spun out of Nortel Networks Ltd. in February 2001. Klocwork offers software intelligence solutions for analyzing software and design. From that understanding of the code, organizations can then do multidimensional analyses of what they have, and clean it up and set up rules to make sure any errors don't happen again.

"You can talk of defects from a number of different views," Campara said. "There can be architectural defects, defects in the



**There are many views of defects, says Klocwork's Campara.**

interfaces, in security, in the code. Then there are the inefficiencies and interdependencies that must be understood. Then you can plan how to attack each of those, and to protect against it. You can spend years cleaning up your code, but without protections, within six months, the defects all are back."

Currently, defect-tracking tools tend to be point solutions, Campara said, although "everyone wants development, management and information driven

from the same repository." There is not one vendor who can extract everything that teams within an IT organization want to exchange, she added, but under the Architecture-Driven Modernization effort, a metamodel expressed in UML can be created that each team can use that sets the standard for exchanging information via the XML Metadata Interchange (XMI) protocol.

Campara said she envisions vendors of tools for defect tracking, metrics and

security, for example, all populating the same repository and sharing the system's information. "When you add data-mining engines on top, it becomes very powerful" for analyzing software for quality, she added. "With so many tools now generating their own repository of information, it's so painful to pull a bit of information from here, and another bit from there."

The downside, she acknowledged, is that a solution of this nature is "expensive at this time." ■

## DEFECT TRACKING

◀ continued from page 29

time-sheet systems and a trigger for build tools. "A client finds a bug, it gets tracked, and then they want a new build. It would be good to automate the process to alert us when all bugs are fixed so a build for that branch of code can begin." As for time-sheet systems, Florentin said he would like to be able to quickly see what he and other members of a development team were working on a week earlier, for example, to help in the process of monitoring progress toward completing the tasks and to track the costs of the project.

Florentin said Open Link is using Tech Excel's DevTrack solution, which offers project and defect management and also can access other tools such as

Microsoft's Visual SourceSafe and Perforce's source configuration management tools, and IBM's Rational ClearCase for requirements management.

The trend of bundling these tools into suites might have the effect of forcing smaller companies to forgo the tools and develop a home-grown solution for defect tracking, said Craig Hill, release engineer for Kewill Solutions NA, a U.K.-based developer of supply-chain management software with North American headquarters in Marlborough, Mass.

"The bigger shrink-wrapped tools that do the start to finish are for very large corporations, and I don't know that I've ever seen anyone roll that out completely," Hill said. "The drawback on large tools is that they are complex and expensive."

Hill also was glad to note that vendors

are beginning to invoke more process-driven controls into their tools. Merant's Tracker, which Kewill uses in its development, allows developers to create dependent fields that are definable, to recognize that the characteristics of one piece of data affect the characteristics of another piece of data, he said.

One tool that Hill said is not useful to his work is a static code analyzer. "I don't trust 'em," he said. "The analyzer can't determine what the intent of the developer was. You'd have to build in artificial intelligence" to make the tools more important, he said.

Yet one trend he would like to see vendors pick up on is trending—the ability to do a post-mortem after a project is completed and evaluate it against prior releases. ■

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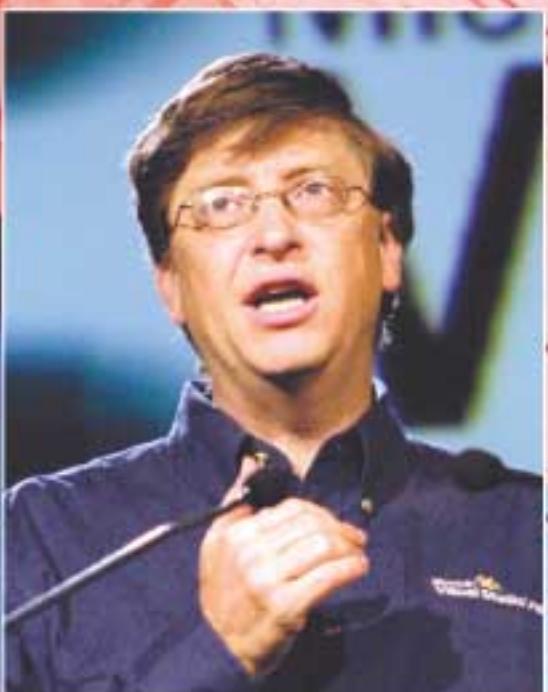
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## EDITORIAL

## Eclipse's Good Re-Beginning

IBM's moves to reorganize the Eclipse Project into an independent organization are off to a good start. But more work must be done before Eclipse can be viewed as a truly vendor-neutral body with the best interests of developers, rather than IBM, at its core.

The positive moves are many. Hiring an independent director, who is not an employee of any of the members, will be a strong one. Presently, nearly every dealing with Eclipse means working with someone whose business card, and paycheck, comes out of Armonk, and there's no doubt where their loyalty must lie.

Under the new Eclipse plan, IBM and its closest allies still retain a great deal of control over the organization, through their roles on the board of directors. But, because IBM will have only one seat on the board, there is the potential for other voices to be heard and other visions to be realized.

We applaud IBM's moves to invite collaboration on what's turning out to be the most viable and broad-based developer platform for Java, as well as for Linux.

It is a true shame that Sun has chosen to ignore Eclipse's invitation to join as a board member. Sun claims that the membership would require the abandonment of NetBeans; Eclipse says otherwise. Without core Eclipse documents being made public, which they weren't as of the time this issue went to press, it's hard to say exactly what the top-level membership entails. Still, we are not surprised that Sun and IBM continue to be unable—or unwilling—to resolve their differences.

It is also unfortunate that IBM chose not to allow what it calls "associate" level members, such as those from universities and standards body, to have formal representation on the board of directors. It is those organizations, potentially free from self-serving commercial interests, who might provide the freshest ideas for Eclipse's future directions and growth.

While these initial forays into openness and independence look good, much depends on the fine print. IBM has invested far too much in Eclipse to allow other companies to take the project in directions that may be contrary to IBM's own best interests. Indeed, much of IBM's own product line, including WebSphere Studio, is based on the Eclipse codebase. We'll have to wait until the Eclipse contracts, charter and other legal documents become available before seeing how independent Eclipse is.

It will be interesting to see how the Eclipse Foundation develops. With no formal influence on either the Linux operating system or the Java Community Process, it may always be reactive, instead of proactive, as it struggles to keep up with changes to those core platforms.

Eclipse clearly will lack the advantages that Microsoft has, with its close links between tools (Visual Studio .NET) and platforms (Windows and .NET Framework), which will limit Eclipse's ability to innovate and influence the direction of core technologies and runtime environments. As long as Sun remains recalcitrant, that is unlikely to change. ■

## EDITORIAL

## GUEST VIEW BREAKING THE MOLD: USER INTERFACE INNOVATION

If you run any random application on your computer, you are likely to find displayed in front of you the same familiar assortment of menus, toolbars, scrollbars and icons, albeit arranged in different ways.

During the past several decades, these user interface (UI) tools have become entrenched as being *the* tools for manipulating data and navigating information spaces. As developers or software designers, you have good reason for making widespread use of these familiar interaction techniques.

Users have become accustomed to these ubiquitous tools, and providing an easily understandable work environment to your users is a valuable thing. However, the desire to provide a comfortable work environment should not restrict us from using new,

nonstandard and more powerful user interface techniques.

## HISTORY OF STATUS QUO

Back in the early days of the commoditization of personal computers, designers realized that they should make the machines more accessible to the nontechnical crowd: the administrators, executives and other typical office folk who hadn't been huddled around terminals and mainframes for the previous decade. This led to many early UI innovations,

many of them prominent in such products as the Xerox Star Information System, a personal computer released in 1981. The Star provided an early example of a graphical user interface (GUI), and made use of such interface concepts as



**GARTH  
SHOEMAKER**

icons, windows, direct manipulation using a mouse, the use of a virtual desktop, menus and WYSIWYG editing.

Although few of the early GUI-based personal computers were commercial successes, they had huge influence over the future generations of machines.

Every single major new computer operating system released in the past 20 years has taken major design cues from previous generations.

Windows and Mac desktops use icons and menus not because it is necessarily the best way of doing things, but because that is the way it has always been done. GUI environments these days are an exercise in conformity, and while conformity is comfortable, it is not always desirable. As some of the original Star

## LETTERS TO THE EDITOR

## MIDDLEWARE IS HISTORY

In response to your editorial ["Middleware Is Relevant," Jan. 15, page 22, or at [www.sdtimes.com/opinions/opinion\\_094.htm](http://www.sdtimes.com/opinions/opinion_094.htm)], I'm afraid SD Times missed the point. Perhaps we're guilty of being too cute on a billboard.

The point of our position is that only IBM benefits from the statement, "Middleware is Everywhere." What a perfect value proposition for a company that's trying to convince the world IT is too complex.

Our position is far more aligned with Nicholas Carr, in the now-infamous Harvard Business Review article that suggests much of IT has lost its value. Now, we don't believe IT has lost its value, but we do believe there's little to no competitive advantage to be garnered from building your own assemblage of middleware to achieve basic Web services. Corporate and customer directories, identity systems, portals, e-mail and calendaring, even clustering—you'll never beat the competition because you had better patch management and integration strategies.

Thus, our belief that middleware is, in fact, history.

To back that up, Sun introduced the Java Enterprise System, and now provides an integrated, qualified stack, at \$100 per employee, to which you are

granted an infinite right to use all products. Coupled with our \$50 desktop, commoditization has now officially come to software, which frees your IT budget and staff to innovate in ways that do, in fact, generate a competitive advantage.

The world of server operating systems has basically resolved to the big three—with Microsoft's Windows, Sun's Solaris and Red Hat's Enterprise Linux. (Speaking of history, one wonders why IBM has said AIX is dead.) You should note that each of these three OSes has its own Web server, each has its own app server, each has its own messaging solution. Only Sun bulks that up to include the entire stack required for shared Web services, on a one-way Pentium all the way up to a 100-way SPARC server, with identity and clustering, content provisioning and MPEG streaming. Where is IBM to go?

Back to a message that says, "IT is too complex; Middleware is Everywhere." Back to fear, uncertainty and doubt. To us, that's not a value proposition. That's a scare tactic. To us, middleware is history, along with FUD. The real value's moved upstream—just ask our customers.

**Jonathan Schwartz**  
Executive Vice President  
Software Group  
Sun Microsystems Inc.

## ANALYZE THIS

In his Guest View, Michael Lutz makes several important points about the primacy of design over coding standards ["Code Analyzers: What's the Business Value?" Jan. 15, page 22, or at [www.sdtimes.com/opinions/guestview\\_094.htm](http://www.sdtimes.com/opinions/guestview_094.htm)].

However, I think that parts of his case are flawed based on how he tested the code analyzer. He writes, "In my situation, I had tested the software on multiple platforms...and it worked properly." In other words, he tested the code analyzer on already-debugged code to see if it found any previously undiscovered bugs.

The value of code analyzers isn't in analyzing fully debugged code. The value is in analyzing code prior to debugging, to see if it can eliminate any low-hanging fruit. While I am sure that there are developers out there using the Personal Software Process who write code that compiles and runs the first time, the vast majority have to go through a painful debugging process. This process can consume anywhere from 25 percent to as much as 75 percent of the overall project budget, in my experience. If a static code analyzer can eliminate some of that, presumably more budget would be available for investigating the more intractable design-related issues.

A more interesting test of the code analyzer would have been

designers realized, "a slavish adherence to one metaphor is a problem if it prevents us from capitalizing on features outside the domain of the metaphor."

Although most user interfaces mindlessly conform to our expectations, occasionally you will run into a software application that uses interface concepts that are fresh, powerful, interesting and, most important, *work better*.

One example of a novel interface concept in use today is the pie menu. While normal menus have items stacked one above the other, pie menus lay the items in a circle around a cursor. There are two advantages to this: First, all possible selections are close to the cursor, and second, one can use muscle memory to remember the direction of an item. With some practice, selecting an item in the menu becomes a simple gesture, as opposed to the complex process of aiming for a specific item in a list. These menus have been successfully commer-

cialized in such applications as Maya from Alias, and The Sims from Electronic Arts.

While the previous example deals with a novel input mechanism, one should also consider the display of information. Take mapping, for example. I often struggle using online mapping applications to find an address, mostly because of small map sizes on a monitor. I can see either an overview of a large area or the detail of a small area—but never both. When I zoom in to inspect my destination, I get lost. I now ask the question: Why are maps shown in the same flat two-dimensional manner as paper maps? Can't we do something different and useful using all this computation power at our disposal?

The answer is yes. We can render the map using detail-in-context display techniques, and these display techniques can make the map application easier to use. This is another example of a useful interface concept that

doesn't arise naturally from the standard tradition of GUI interfaces, yet can improve the user experience significantly.

#### WHAT SHOULD YOU DO?

I am obviously a strong proponent of exploration and innovation in new interfaces. I also realize that it is very risky for an application developer to completely redesign an application to use interface concepts alien to a typical user.

As such, I do not recommend that you take your bread-and-butter word-processing application product and change it so that input is through an eyetracker and output is through a haptic feedback device.

What I do suggest is that when designing your product, you try to keep your mind open, and, above all, *question the assumptions underlying your design*. "Why am I using a scrollbar to navigate here? Is it because all other applications of this type use a scrollbar? Can I

do this better?" In the end maybe you will use a pie menu instead of a normal menu in one instance, or you may use detail-in-context rendering techniques in another. One choice such as this can differentiate your product in the market, and also will advance the state of interface innovation in general.

It is also very useful for software designers to keep up to date on innovations presented at user interface conferences and in journals. Academics invent all sorts of unusual ways of doing things. You will likely find 95 percent of them to be impractical, but 5 percent of the time you will see something truly interesting that will change the way you think. Some conferences and journals to follow include UIST, SIGCHI and Transactions on Computer-Human Interaction—all from the ACM. ■

*Garth Shoemaker is director of research for Idelix Software Inc.*

to analyze Mr. Lutz's product from a build prior to his testing. If it still didn't find anything meaningful, then the vendor's claims could very well be all wet, at least in Mr. Lutz's case.

#### Peter Clark

Manager, Ann Arbor  
Computer Division  
Jervis B. Webb Co.

#### CONCEPTS MISUNDERSTOOD

Alan Fisher's Guest View ["Outsourcing No; Code Reuse, Yes," Jan. 1, page 26, or at [www.sdtimes.com/opinions/guestview\\_093.htm](http://www.sdtimes.com/opinions/guestview_093.htm)] contained a curious mix of good points, ill-defined terms and incorrect conclusions.

Trend 1: Outsourcing Is No Longer "In." I fully agree that with outsourcing "...the sacrifices are frequently worse than the problem." Few business managers or even IT managers view a development effort as anything more than a stand-alone project whose outcome is solely the source code (or rather, the compiled binary). Until these people acknowledge the value—and development cost—of business domain knowledge embedded in the brains of their software developers, they will continue to receive the unmaintainable, incoherent systems for which they've paid bargain-basement prices.

Trend 2: Iterative Development Comes of Age. While "...flexible, enterprise-wide applications...are central to business

success today," the 1990s determined only that long, verbose, expensive documents don't guarantee success. It's far from certain that iterative development will prove the solution to this. Code generation can help, but it rests on a bedrock of abstractions—the ability to properly abstract the essentials of a business problem's many aspects from its representation in running code. It's a skill lacking in most developers, but essential to any enduring success.

Refactoring is not "...leveraging existing code assets into new Web-based applications." Refactoring is gradually altering the structure of an existing codebase, using a well-defined series of code-transforming steps with a unit test suite. Until this industry learns to at least define its terms and use them correctly, there's little hope we can rise above a rhetorical approach to development.

Trend 4: The Decline of UML. UML is not "...a structured methodology." UML is a notation; perhaps Fisher is thinking of the Rational Unified Process (RUP), which in any event starts with an agile core and piles on enough tangential details to convince any management team that it's "complete" and "structured," which it's not.

Fisher writes that "most of us just aren't naturally structured thinkers." Combining a sloppy definition of "iterative" with

"unstructured" thinking is a recipe for disaster, especially for "recycled code," which only has a prayer of working if it does in fact have "structure" (better known as defined preconditions and postconditions, plus a healthy dose of coherence).

It's tragic that this industry has more potential than any other to base itself on pure, well-defined and understood concepts; but instead we collectively descend, again and again, into implementation without understanding.

#### Eric Kaun

#### FEATURES FOR ALL

As has Mr. O'Brien, I've been watching the divergence of languages with interest, too ["Dramatic Changes," Jan. 1, page 33, or at [www.sdtimes.com/cols/winwatch\\_093.htm](http://www.sdtimes.com/cols/winwatch_093.htm)]. While I appreciate that different languages have different strengths, I also don't think that artificial differentiators need to be introduced, either.

Edit and Continue, for example, is a boon to *all* developers, not just VB, so why restrict this feature to just VB? Refactoring is a feature that could have been implemented with the CodeDom, making it available to all languages that support the CodeDom. The Myclasses being introduced in VB.NET 1.2 are simply a library of functions; why not make it available as part of the CLR?

C++, C#, VB, Java and Pas-

cal are all basically designed to solve the same structured/OOP problems with just minor syntax differences. Why not leave the language differentiation for languages that are solving different problems, such as Prolog for rule-based inferencing or awk for text processing?

Since it's still early in the development cycle, there is still time for Visual Studio to do the right thing and support these newer features across the board for all of their languages.

#### Erik Wynne Stepp

#### CORRECTIONS

Paul Lipton is a technology strategist in the office of the chief technology officer at Computer Associates International Inc. His title was incorrectly provided to SD Times for an article in the Feb. 1 issue.

Merant Inc.'s document management product is called Meritage. It was incorrectly identified in the Jan. 15 issue.

Todd Warren is general manager of Microsoft Corp.'s Embedded Devices Group. The group's name was incorrect in a Jan. 1 story.

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# SD Times

Software Development Times  
February 15, 2004 - Issue No. 096

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## RETURN OF THE THING

Yea, it has come to pass that the Age of Objects is in sunset. A darkness has fallen upon the lands of programming. The people know not where to place their parameters and an ill wind plagues their interfaces. They are besotted with XML and squander their bits most ingraciously. But, lo! A fellowship rides forth, bearing tidings of hope and productivity.... Oops, my editors have just instant-messaged me that the phrase "epic fantasy" is already applied too often to my column and that it's 800 words I get, not 800 pages.

But there really are portents...er, hints...that object-oriented programming is nearing the end of its decade-plus dominance of the software development Zeitgeist. Consider the three tenets of OOP: inheritance, polymorphism and encapsulation. If one's programming were "oriented" toward objects, one would expect these issues to be important contexts for every conversation.

Consider UML pioneer Grady Booch's classic description of an object: "An object has state, behavior and identity." Again, if an apt description of one's approach were "object oriented," then there should be objections to the use of stateless or transient components in a design.

Now consider what people really get heated about in design meetings: "How

is that exposed over the Internet?" "How does that scale?" and "How is that tested?" Whether you call it "service-oriented architecture," "chunky versus chatty," "document versus RPC" or "Test-Driven Architecture," the dominant focus of discussion (the orientation of programming, if you will) is no longer the divvying up of responsibility between objects. Rather, it's the creation of fences and gates, which can only be opened by a single key and through which only complete, well-formed and coherent things are returned.

This is not to say that objects are going away, any more than decomposing a large task into smaller functions (the central process of structure programming) went away when object-oriented programming came into vogue. But program structures are fractal: Design in the small reflects design in the large, and as junior programmers design their local objects, they will invariably copy the broad and stateless interfaces that senior programmers and architects are exposing to the outside world.

If the principles of OOP can't provide reliable guidance on program structure, then you can't say that programming is "oriented" toward objects. This isn't just

### WINDOWS & .NET WATCH



LARRY O'BRIEN

curmudgeonly nit-picking. The profession of software development is being modernized at breakneck speed—project iterations are suddenly much shorter, teams are much more fluid, and the expectation of productivity is much higher. The ability to rapidly "align" with a new codebase is an increasingly important skill. We have few enough touchstones for these elaborate mental constructions of ours; a fictional loyalty to principles we no longer obey in practice is downright harmful.

When I look at the structural trends in software, at both macro and micro levels, what I see is a harkening back to principles of functional programming: a favoring of idempotency (if a function is called more than once with identical parameters, it should return the same value), a distrust of side effects and "hidden complexity," and an emphasis on inputs being transformed into a single coherent output ("return the whole thing").

Also—although this is perhaps more a wish than an observation—the arguments for constrained interfaces made most elegantly by REST advocates seem to be increasingly influential (at the individual function level, you could say this is just old-fashioned object-oriented polymorphism, but the idea that it's beneficial to actively constrain the number

of functions in an interface is not part of the standard OOP canon).

That virtually every statement in the above paragraph invites a pedantic "That is too part of good object-oriented programming!" letter strengthens my conviction, because I know that such letter writers will have to rely on the word "good" and not the phrase "object-oriented programming." Sadly, I'm old enough to remember exactly such letters dismissing object orientation as nothing that wasn't part of good structured programming.

Although I'd prefer to never have another "-orientation," "-driven" or "-centric" hyphenate enter my life, I'm going to guess we'll see "service-oriented programming" (despite its unfortunate acronym) trickle down from the already popular "service-oriented architecture." In the .NET world, C# is the likely contender to be the hybrid language that bridges the old and new worlds (in the way that C++ bridged the procedural and object worlds). But if I'm right, soon there will be treatises criticizing "service-object hybrids" instead of "pure service-oriented design." Someone will present a language that is to C# and services what Smalltalk is to C++ and objects.

And then the battle will be joined. ■

*Larry O'Brien is an independent technology consultant and analyst, and the founding editor of Software Development Magazine.*

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## KEEPING THE CODE CLEAN

I recently had the pleasure of talking with Doug Levin, founder and CEO of Black Duck Software Inc. As reported by David Rubinstein in the Jan. 15 issue ("Black Duck Analyzer Seeks to Protect IP," page 1, or at [www.sdtimes.com/news/094/story2.htm](http://www.sdtimes.com/news/094/story2.htm)), Black Duck is working on an auditing and management tool for detecting and managing proprietary and open-source code.

Frankly, every programmer I've ever known, and I'm one of them, has been lazy about keeping track of the ancestry of his or her code. While some programmers like to reinvent the wheel—just look at all the developers behind the dozens of slightly different Linux distributions—many more, especially those in software development houses and corporate IT departments—would much rather reuse old code than create new code.

That's especially true when the hamster's down, the clock is ticking, and the CIO wants to know why the new accounting program isn't online yet. And that's when programmers tend to grab any code at hand that works.

During those rushes, programmers are highly unlikely to spend time reading the code and checking its family history. As a Java developer friend puts it, "It's a lot easier to write code or reuse code than to read it."

So it was that in the past—although this makes people who care about intellectual property (IP) issues cringe—

developers frankly didn't give a hoot where the code came from so long as it worked. Then, along came SCO with its Linux IP claims and everything changed.

Think what you will of the merits, or the lack thereof, of SCO's case; it has made organizations start to wonder about what's what with the IP hidden within their programs.

Fortunately, there are tools that let you analyze your code for duplication from other source trees, such as Comparator and Filterator ([www.catb.org/~esr/comparator](http://www.catb.org/~esr/comparator)) from Eric Raymond, one of open source's founding fathers. These are a pair of tools for finding common code segments in large source trees.

That's great as far as it goes, but it doesn't go far enough if you're searching for code that's covered by the GPL, another section that's from the Apache open-source license, and some of your own internal proprietary code. That's where Black Duck wants to come in.

Levin, who used to head worldwide licensing for Microsoft Corp., notes that open-source licensing when combined with proprietary software can lead to situations where, in theory, all the code becomes open. Exactly what would happen depends on how they're combined. For example, a program that incorporates both open-source and proprietary

code in a single code block is clearly in violation. On the other hand, if all an open-source program does is use an API call to an otherwise completely separate program, you're in no danger of any kind of IP violation.

What will actually happen, according to my IP lawyer friends, is up in the air. None of the open-source licenses have actually been tested in court. Most feel that they will hold up well. In any case, though, if you're mixing code from different licenses, even if they're all open-source, you run a risk of violating some rule or the other. For example, you can make changes to BSD code and keep them private, but if you include GPL source code in your project, even though the rest of it is BSD, you run the risk of having someone demand the source code on the grounds that it's now GPL. What would happen in court?

Levin said the Black Duck software can protect enterprises from such licensing issues by the use of an open-source license knowledgebase. Black Duck's Code Analyzer software then uses this when reviewing the program to ensure that your code is kosher. The program can be used in conjunction with CVS standard and Eclipse source-code management tools.

Levin tells me, "I recognized enormous gaps in intellectual property rights were not being addressed in the development cycle in large part because of the communications gap between develop-

ers, project managers and business managers. Frequently, project managers didn't know enough about open source to know if there was a problem. They become the hub between development teams and a company's legal departments. So, in one case, when a problem was uncovered late in the development cycle, it resulted in a six-week delay. What Black Duck wants to do is to get rid of the friction between management levels and to minimize IP software risks."

That alone, if the program is successful, will make Black Duck a worthwhile investment. But it's the IP management side that I find the most interesting.

The program is still in beta, and honestly, I'm sure it can't be perfect. You're simply not going to be able to throw in an entire source tree and a few minutes later be looking at a report that tells you lines 25 to 24 in the interface module are GPL, while 37 to 41 are from an Apache project, but based on what I've seen so far, it will go a long way toward making sure that your code is clean of IP violations.

In the short term, it will add another step to the development cycle, but at the same time, it will help keep upper management, project managers and coders on the same IP page. And in the long term, it can help you stay out of court and in the office where you and your crew will be a lot more productive. ■



STEVEN J.  
VAUGHAN-NICHOLS

## ADAPTING TO OFFSHORING

In my previous column, I discussed offshoring, which is the growing practice of outsourcing services to offshore companies, especially ones located in India. I projected that this trend will grow at an accelerating pace and it will inexorably move domestic programming jobs from American shores to lower-paying climes. The trend is irreversible, and hence denials and fulminations against it by U.S. programmers are misplaced.

Turning a blind eye to change in a professional field is a serious miscalculation, because it shortens reaction time when the supervening reality finally hits home. History has proven repeatedly—especially when business models are forced to adapt—that denials make adjustment more difficult. With this in mind, thoughtful developers who have recognized the trend are moving quickly to adapt to it. You should too.

If you feel your job is in jeopardy because of offshoring, accept—even embrace—the change. How? You must start conceptually. Envision your site five years from now as a place where all software development is done off-site. Where do you fit in?

If the answer is, you don't because you want to be coding, then you need to

make important moves soon to assure your ability to continue programming. Your first option is to seek work at small businesses that are not candidates for offshoring, either because they're too small or the model is just too far-fetched for them to really explore. Of course, at such companies, programmers tend to be techno-jacks of all trades. So your coding skills will be doing lots of maintenance and support in addition to development.

A second option is to find employment with companies developing cutting-edge software. These firms are not expected to offshore very much of their product development. To get in the door, you will probably need to sharpen your skills—not only as a developer, but within a specific domain area as well. In many cases, the latter will be more important than the former.

In counterpoint, if you can see a future for yourself in which you forgo coding all together—both the drudgery of maintenance and the scintillating satisfaction of creating new software, then you have other options available to you. To exploit them, you must understand that the programming chapter of your



ANDREW  
BINSTOCK

professional life closed, and that you're beginning a new chapter. The first option is to look for project-management work. Some of this work might even entail supervising a team working offshore. It's clear that supervising offshore work is a skill that will be in considerable demand during the next few years.

Other paths exist, however. All of them place more value on your business-domain knowledge. By being an IT analyst and understanding your company's business and its technology requirements, you become a more valuable commodity. Moreover, your skills are ones that cannot readily be shipped overseas. And you're developing useful credentials for finding other employment within the same industry. Whether it's by moving into analysis or management, you must move up the food chain. And if you do so, you'll find compensation is more generous and based more on your judgment than on your ability to understand persistence in EJBs.

Small shops that offer software development to select industries on fixed-bid or time-and-materials bases are also in jeopardy because of offshoring. Increasingly, they're finding themselves underbid by such substantial margins that they can no longer make a compelling case

for the prospective customer to choose them. These shops need to re-evaluate how they obtain business.

One shop I spoke to recently has managed to get out from the trap of responding to low-ball bids. It changed its business model. Rather than provide programming services, it offers wider-ranging computer services. It's become an ASP or service bureau of sorts. What the company found was that as it brought on local clients (hosting their Web sites, performing IT services, tuning applications), it began receiving inquiries about development work that needed to be done.

Today, the company has the safety of monthly payments for the service-bureau work, and the additional higher-margin billings for development work. This model is resistant to offshoring and is a comparatively simple way of selling programming services.

Offshoring is a reality. Time should not be wasted denying, decrying or deriding it. That time is truly lost. Spend the time adapting: Move yourself up the food chain, become more valuable, change your business model. Change of this kind is never fun, but done right, it leads to growth. ■

Andrew Binstock is the principal analyst at Pacific Data Works LLC.

## FREE, AS IN FOR PROFIT

**N**EW YORK — There was no talk of “cathedrals” and “bazaars.” There was no mention of fragmentation. The usual proselytizing was missing. But what there was discussion about, on the floor and in the meeting rooms of the LinuxWorld Conference and Expo at the Jacob K. Javits Convention Center here in mid-January, was money. Specifically, how to make it.

Novell CEO Jack Messman set the tone for the event in his opening keynote, saying the first issue facing vendors that wish to sell open-source software is how to profit. “That’s of significant interest to our employees, shareholders and the folks on Wall Street.”

Messman said that open-source software removes licensing as a revenue-generating component, and that companies will have to rely on maintenance and support to make money. “We charge for cleaning up the code and making it easy to use,” he explained.

In a press conference later, Novell vice chairman Chris Stone outlined a kind of hybrid proprietary/open-source vision of a software stack that’s built on an open-source operating system yet can include commercial software built on top. He said that Novell is currently analyzing its proprietary software to see what it will open up to the community, but added that GroupWise, the company’s enterprise messaging software, “generates a lot of revenue for us” and is not under consideration to be made open-source at this time.

There were no details provided about how future licensing will be handled—Messman and Stone reiterated that Novell had owned SUSE Linux only for about a week—but on first blush, it appears that licensing will not be removed from Novell’s revenue equation, and that proprietary, commercial

software will be retained and sold atop the open-source operating system. The company’s actions on these issues down the road will speak louder than Messman’s assurances at the conference about “giving back more than we take” from the open-source community.

Messman emphasized the need to include ISVs and infrastructure vendors to build a software stack that can compete in the enterprise with Microsoft’s Windows and the various offerings built atop the Unix and Solaris operating systems. Among the major barriers to Linux adoption now, he cited, are global, round-the-clock support and third-party applications.

Database vendor MySQL AB and Java app-server vendor JBoss Group were quick to capitalize on the new attention Novell has drawn to the open-source world, announcing they were forming a marketing alliance to add an infrastructure package to build on top of Linux.

“This is further legitimacy for Linux and good for the professional open-source community at large,” said Marc Fleury, founder of JBoss. MySQL marketing vice president Zack Urlocker predicted that as Linux becomes more mainstream, customers will want to see “what else in the open-source world [they] can use.”

Fleury indicated he was happy to see Novell enter the market as an alternative to Red Hat, which he characterized as “aggressive in commercial terms” and “bullying smaller companies.” Urlocker was quick to point out that Red Hat “put Linux on the map, but it’s always good to have a competitor.”

Fleury called the companies that will help build out the Linux stack “second-generation” open-source companies. “First there were the Linux guys. The second generation have different busi-

ness models. I call it professional open source, as all the companies offer 24/7 support, sales and marketing.”

Urlocker pointed out that MySQL is not trying to compete against Oracle or Microsoft database implementations. “We compete against nonconsumption,” he said. “There are 4 million active installations and 10 million downloads” of MySQL. “These are people who wouldn’t have a database otherwise. We’re selling to the commoditized market. We don’t have all the bells and whistles, but it’s also 1 percent of the total cost of ownership. We’re JetBlue against American Airlines.” He said that MySQL makes about 65 percent of its revenue from licensing.

Fleury made the point that the Free Software Foundation licenses—most notably GPL—have a strong notion of intellectual ownership built in. “If you take from it, you must give back,” he explained. “That gives ownership to everyone. BSD [licensing] is more of a cult. You can take my stuff and don’t have to turn it back. The Free Software Foundation leads to stability because everyone has to give back. Under BSD, infrastructure vendors take [Apache] Tomcat, add a few features and charge \$2,000 per CPU. BSD licenses are developer unfriendly and end-user unfriendly. That’s why free software has led to business.”

Messman said, “Many people confuse open source with free. It’s just not true. We mean free as in freedom of choice, not free as in free beer.” He seemed just a bit uncomfortable trying on that old saw for size.

But it was clear from the enthusiastic response of vendors and enterprise users alike that Novell, with its name recognition and billion-dollar valuation, has taken the wheel in the drive to get Linux more deeply rooted in the enterprise. Microsoft, IBM and other software stack providers have a new Novell to worry about. ■

David Rubinstein is editor of SD Times.

## BUSINESS BRIEFS

**PalmSource Inc.** has taken the first step toward an initial public offering, filing with the Securities and Exchange Commission a registration statement relating to the sale of 2,750,000 shares of its common stock. No further information was available . . .

**M7 Networks Inc.**, a wireless data services provider, said it has raised US\$3 million in new financing. **Enterprise Partners Venture Capital**, the largest venture capital firm in Southern California, led the round and was joined by **Sienna Ventures**, among others . . .

**Computer Associates International Inc.** announced earnings of US\$844 million for the third quarter of fiscal 2004 ended Dec. 31, 2003. That represents a 12 percent increase from 2003, the company said. Income on a GAAP basis for the quarter was \$21 million, or 4 cents per share, an improvement over the loss of \$47 million, or 8 cents per share, for the same quarter in 2003 . . .

**Compuware Corp.** reported third-quarter revenues of US\$318.2 million, a decline from the \$333.1 million the company brought in for the same quarter last year. Net income was \$21.8 million, compared with \$25.4 million a year earlier, the company said . . .

**Microsoft Corp.** said it posted record revenues of US\$10.15 billion for its second-quarter 2004 ended Dec. 31, a 19 percent increase over the \$8.54 billion posted a year earlier. Net income was \$1.55 billion, or 14 cents per share, down from the \$1.87 billion, or 17 cents per share, of the prior year . . .

**Mercury Interactive Corp.** reported revenues of US\$506.5 million for fiscal year 2003, an increase of 27 percent over the \$400.1 million taken in 2002. ■



## CALENDAR OF EVENTS

**Intel Developer Forum** Feb. 17-19  
San Francisco  
INTEL CORP.  
[www.intel.com/idf/us/spr2004](http://www.intel.com/idf/us/spr2004)

**TI Developer Conference** Feb. 18-20  
Houston  
Texas Instruments Inc.  
[www.ti.com/tidc04prbox](http://www.ti.com/tidc04prbox)

**RSA Conference** Feb. 23-27  
San Francisco  
RSA SECURITY INC.  
[www.rsaconference.com](http://www.rsaconference.com)

**Edge 2004 East** Feb. 24-26  
Boston  
SYS-CON MEDIA INC.  
[www.sys-con.com/edge2004](http://www.sys-con.com/edge2004)

**Software Development Conference & Expo West** March 15-19  
Santa Clara  
CMP MEDIA LLC  
[www.sdexpo.com](http://www.sdexpo.com)

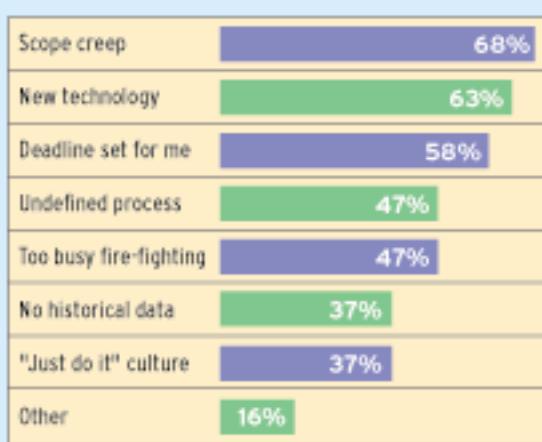
**VSLive** March 23-27  
San Francisco  
FAWCETTE TECHNICAL PUBLICATIONS INC.  
[www.ftponline.com/conferences/vslive/2004/sf](http://www.ftponline.com/conferences/vslive/2004/sf)

**PyCon (Python Conference)** March 24-26  
Washington, D.C.  
PYTHON SOFTWARE FOUNDATION  
[www.python.org/pycon/dc2004](http://www.python.org/pycon/dc2004)

For a more complete calendar of U.S. software development events, see [www.bzmedia.com/calendar](http://www.bzmedia.com/calendar).  
Information is subject to change. Send news about upcoming events to [events@bzmedia.com](mailto:events@bzmedia.com).

## Why Are Legacy-Rewrite Projects Over Budget?

### DATA WATCH



Source: Lamri Ltd., Planning and Estimating Survey, November 2003  
[www.lamri.com](http://www.lamri.com)

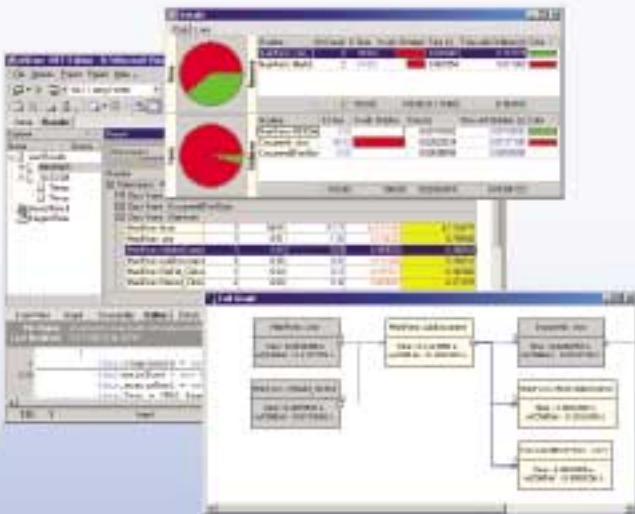
Changes to the requirements of a development project, known as scope creep, are a major health risk to legacy-system replacement projects, according to a recent survey of 105 developers conducted by U.K.-based research firm Lamri Ltd. All respondents reported that legacy-rewrite projects were over budget; 68 percent cited scoping problems, and 63 percent said new technology was to blame.

In all, projects described by respondents fell into three categories: projects starting from scratch, known as green-field projects; enhancements to existing systems; and legacy-system rewrites.

The study suggests organizations are having difficulty building replacements to legacy systems, and are finding it more effective to add features to existing systems. Also, risks imposed by the implementation of new technologies appear to be exacerbated by accompanying changes in project scope, leading to cost overruns in all cited instances of legacy replacement. This could lead to the conclusion that the foundation of cost estimation for modernization might be fundamentally unstable.

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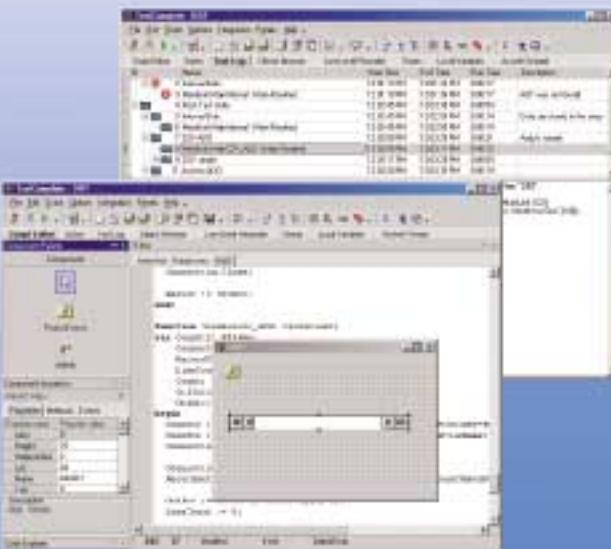
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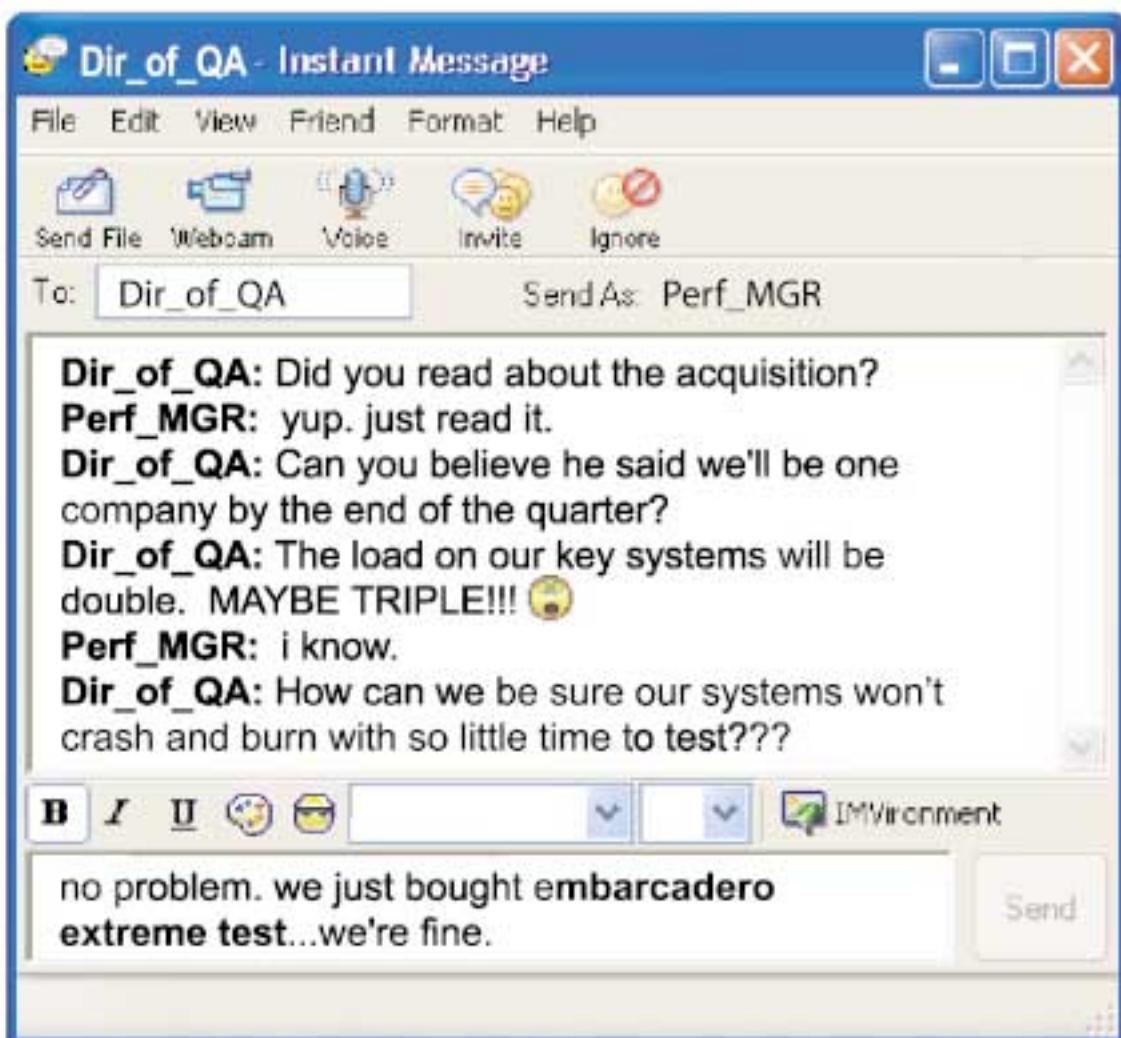


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